Regional Investment Programme

A27 Arundel

PCF Stage 1 - Economic Assessment Report

April 2017

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ECONOMIC ASSESSMENT REPORT - A27 ARUNDEL

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1 STUDY OVERVIEW

1.1 BACKGROUND

1.1.1 The Road Investment Strategy (RIS) for the period 2015-2021, published in 2014 and known as 'RIS 1' comprises a long term vision for England's motorways and trunk roads. It specifies those locations which are to be the subject of technical study and which should, as a result, be improved through a programme of investment.

1.1.2 The A27 in the vicinity of Arundel were identified by RIS 1 as areas for investment (referred to as 'A27 Arundel Bypass').

1.1.3 Highways England have commissioned WSP | Parsons Brinckerhoff to undertake a technical assessment of the A27 around Arundel, and to consider in detail the various technical issues associated with improving these sections of the A27. The assessment has been undertaken in line with the Project Control Framework (PCF) operated by Highways England. Specifically, the assessment is at PCF Stage 1; 'Option Identification'. This is the stage where:

- → Options are identified to be taken to public consultation
- → Options are assessed in terms of environmental impact, traffic forecasts and economic benefits
- → Cost estimates are carried out.

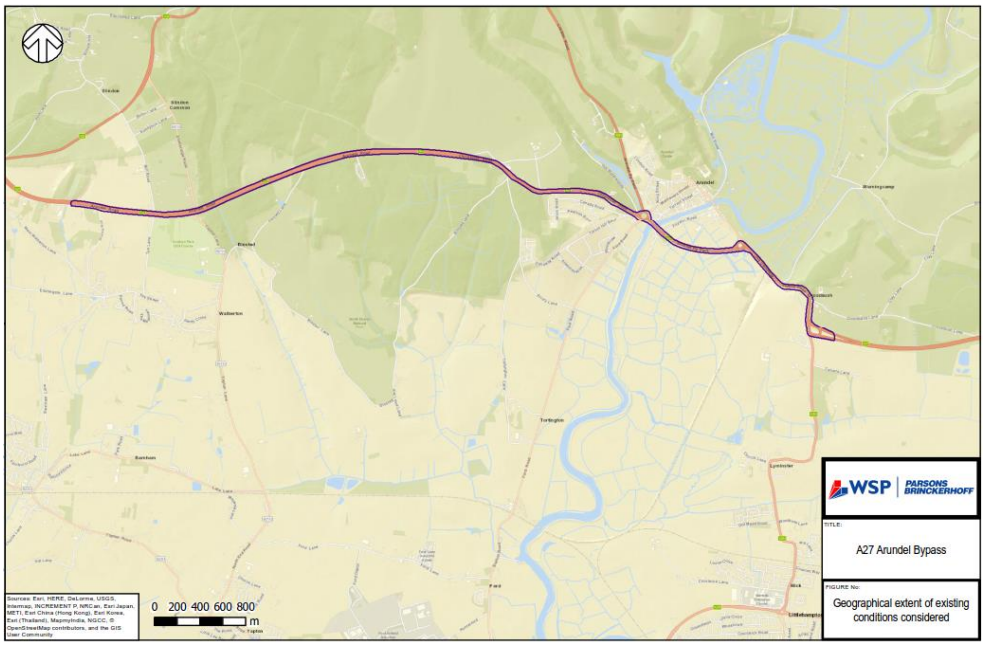
1.1.4 This report describes the scope and methodology of the economic assessment that has been undertaken in furtherance of PCF Stage 1 of the A27 Arundel Bypass scheme.

1.2 SCHEME LOCATION

Arundel Bypass Scheme Location

1.2.1 The A27 around Arundel is within the Arun District of West Sussex. The A27 Arundel Bypass Scheme section is between Chichester to the west, and Worthing to the east as shown in Figure 1. It extends from Long Lane just east of the A27 junction with Havenwood Park west of Arundel to the existing A27/A284 Crossbush Junction. It runs alongside and across the South Downs National Park (SDNP), and is also constrained by urban development along the route. The presence of ancient woodland to the west of Arundel and the river Arun to the east of Arundel also act as constraints.

Figure 1 A27 Arundel Bypass Scheme Section



1.3 SCHEME OBJECTIVES

The objectives of the A27 Arundel Bypass scheme is detailed in the respective Client Scheme Requirement documents and are summarised below.

1.3.1 The scheme seeks to deliver the following objectives:

- To enhance the capacity, connectivity, and the resilience provided by the A27 route within the West Sussex Coastal Area and the wider coastal region. This will contribute positively to the economy of Worthing and strengthen the local and regional economic base, as well as facilitate housing allocations within Local Plans. Also to minimise disruption to traffic and to business during the implementation of any scheme.
- To improve the safety and personal security of travellers along the Arundel section of the A27 route for all road users including vulnerable road users.
- To improve road safety and reduce dis-benefits to communities and vulnerable road users on the wider local road network that is caused by traffic avoiding congestion on the A27.
- To reduce the community severance caused by the A27 through Arundel, and to improve links between local communities, including for vulnerable road users. Also to provide better access to local services and facilities and to the South Downs National Park (SDNP), particularly for more sustainable modes of transport.
- To deliver a high standard of design for any A27 improvement that reflects the character of the route and the quality of the surrounding landscape, minimises the adverse environmental impact of new construction, improves air quality within the AQMA, and supports the following:
    - planning for climate change
    - working in harmony with the environment to conserve natural resources and encourage bio-diversity
    - protecting and enhancing countryside and historic and archaeological environments
    - reducing air and noise pollution

→ To recognise that any improvement would have a significant impact on the SDNP, and have regard to the purposes and special qualities of the National Park that the SDNP authority is seeking to preserve in designing and evaluating improvement options.

1.4 SCHEME OPTIONS

1.4.1 Numerous scheme options are proposed for the Arundel section of the A27. As this study has progressed through PCF (Project Control Framework) Stage 1 it has become apparent that some Options are better suited to delivering the objectives listed in Section 1.3 than others, and indeed that some Options are not suitable to be taken forward to economic assessment. The full list of options that were considered within PCF Stage 1 is detailed below, along with an identification of those Options that have been taken forward to economic assessment.

Arundel Scheme Proposals

1.4.2 **Option 0A:** Junction improvements only – encompassing improvements to Crossbush Junction, Causeway roundabout and Ford Road roundabout.

1.4.3 **Option 0B:** Consists of a narrowed urban D2UAP corridor along the existing A27 alignment, in addition to the improvements at Crossbush Junction, Causeway roundabout and Ford Road roundabout.

1.4.4 **Option 0BA:** A narrowed urban D2UAP corridor along the existing A27 alignment, in addition to the improvements at Crossbush Junction, Causeway roundabout and Ford Road roundabout. Supplemented by a short offline section past Arundel Railway Station. The current road section past the railway station is to become a local off-slip/ on slip from the short new offline dual carriageway section.

1.4.5 **Option 1:** D2UAP widening on current existing alignment, then offline D2AP to tie into Crossbush Junction to incorporate the route suggested by West Sussex County Council – an online, then offline improvement, running west to east).

1.4.6 **Option 2:** Two Lane All Purpose Dual Carriageway (D2AP) bypass with reduced visual impact by having the route lower in the valley. Option 2 is an offline route from the existing A27 alignment. This alignment is approximately 4.4km in length and commences from a proposed new interchange adjacent to The White Horse Public House, to the west of Arundel, on the existing A27 Chichester Road. The alignment then turns toward the south to run adjacent to Tortington Lane and then south-eastward. The alignment continues in a south east direction to cross the River Arun, and then turns northwards to run adjacent to the existing A27 Arundel Bypass. This alignment then continues on to cross over the Arun Valley Railway and ties into the existing A27 to form a new grade separated interchange at Crossbush Junction. Option 2 will incorporate the standard D2AP corridor along its entire length.

1.4.7 **Option 3:** An offline D2AP route bypassing the existing A27 alignment. This alignment continues in a south east direction through ancient woodland at Tortington Common to create four new under-bridges at Old Scotland Lane, Binsted Lane, Tortington Lane and Ford Road. The alignment then turns eastwards to create two new over-bridges at the River Arun and Arun Valley Railway. The proposed alignment then ties into the existing A27 to form a new grade separated interchange at Crossbush Junction. Option 3 will incorporate the standard D2AP corridor along its entire length.

1.4.8 **Option 4:** An offline D2AP route. This option commences further west than the previously mentioned options to minimise impacts on existing ancient woodland and the newly formed South Downs National Park. The alignment continues in a south east direction adjacent to the border of the South Downs National Park and will create four new under-bridges at Binsted Lane (north), Old Scotland Lane, Binsted Lane (south) and Ford Road. The alignment then continues east, similar to Option 3 above, and will create

two new over-bridges at the River Arun and Arun Valley Railway. The proposed alignment then ties into the existing A27 to form a new grade separated interchange at Crossbush Junction. Option 4 will incorporate the standard D2AP corridor along its entire length.

1.4.9 **Option 5:** An offline D2AP route. Option 5 runs north of Tortington Priory, thereby allowing for the shortest distance possible over the floodplain, then intersects the ancient woodland. The alignment then continues east, similar to Option 3 above, and will create two new over-bridges at the River Arun and Arun Valley Railway. The proposed alignment then ties into the existing A27 to form a new grade separated interchange at Crossbush Junction.

1.4.10 **Option 5A:** Offline D2AP route. Combination between Option 3 and Option 5 alignments, avoiding SDNP ancient woodland areas to the west and passing south of the Guest Houses on Priory Lane along Ford Road, joining with the existing A27 dual carriageway at Crossbush and a new grade separated junction near Binsted Lane.

1.4.11 **Option 5B:** The proposed alignment is an offline D2AP route starting at Crossbush Junction to form a new grade separated interchange with the existing A27 dual carriageway, running west, south of Arundel town, across the Arun floodplain between Tortington Priory and Tortington village. It bypasses the ancient woodland areas completely running between Binsted and Walberton, to join the existing A27 dual carriageway north of the Hilton Hotel and Avisford Park Golf Course, west of the existing junction with Mill Road/Tye Lane.

1.4.12 As a result of the stage 1 design, junction modelling and environmental appraisal of these options, a number of the above Options have not been taken forward to economic assessment.

1.4.13 Those options that have been taken forward to economic assessment are:

- Option 0A
- Option 1
- Option 3
- Option 5A
- Option 5B.

1.4.14 The reasons that these options have been brought forward (while others have not) are listed below:

- **Option 0A:** This has been taken forward as it is considered to be a useful reference case which demonstrates what level of benefits could be achieved without taking the A27 ‘offline’. Representatives of The South Downs National Park are keen to see that this Option be compared against other ‘offline’ options in economic terms.
- **Option 1:** Statutory consultees have suggested that this option be assessed in economic terms. It is largely online, avoids Ancient Woodland and the South Downs National Park and does not pass through the immediate vicinity of any conurbations.
- **Option 3:** Representatives of Arun District Council and West Sussex County Council have recommended that this option be assessed in economic terms. Such an alignment is referenced by the Arun District Local Plan.
- **Option 5A:** This Option is thought to affect Ancient Woodland and the South Downs National Park to a lesser extent than Option 3 and so it is suitable for economic assessment.
- **Option 5B:** This Option should be considered in economic terms as it is necessary to have an assessed Option which does not pass through the South Downs National Park or Ancient Woodland.

1.5 PREVIOUS ECONOMIC ASSESSMENTS

1.5.1 The A27 Arundel Bypass Scheme is subjected to a degree of economic assessment during PCF Stage 0.

1.5.2 A feasibility study was commissioned by the Department for Transport (DfT) and is provided at the following location.

https://www.gov.uk/government/publications/a27-corridor-feasibility-study-technical-reports

Stage 0 Economic Assessment of Arundel Scheme

1.5.3 Benefit to Cost Ratios were calculated for two options, Option A which has been renamed as Option 3 within PCF Stage 1, and Option B which has been renamed as Option 4 within PCF Stage 1.

1.5.4 An extract from the feasibility study is provided below. The Present Value Costs from the feasibility study are lower than currently anticipated by Benchmark as at the time the mitigation for the ancient woodland was not allowed for.

Figure 5-1: Benefit-Cost Ratio Calculations - Arundel Investment Case

Option name		Option A – offline dual bypass through National Park (pink/blue line) (£m)	Option B – offline dual bypass - longer to avoid National Park (£m)
Overall cost of scheme (£ undiscounted)		188.0	228.6
Present Value Costs (PVC)		159.3	192.7
Accident Benefits		26.8	27.1
Present Value Benefits (PVB)	Core	322.4	320.6
total including accidents	Adjusted	335.2	333.3
Core BCR		**2.0**	**1.7**

A27 Feasibility Study
February 2015

Report Prepared by Parsons Brinckerhoff
for the Highways Agency

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PARSONS BRINCKERHOFF

Stage 3 - Value for Money Assessment Report
Report 3 of 3: Investment Cases

Adjusted BCR		2.1	1.7
Range of BCR	*[Low Growth]*	1.6	1.3
	[High Growth]	2.4	2.0

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2 ECONOMIC ASSESSMENT APPROACH

2.1 TRANSPORT MODEL DESCRIPTION

2.1.1 An updated strategic highway model developed in SATURN has been used as the basis for the economic benefits outlined in this report.

2.1.2 The West Sussex County Transport Model (WSCTM) previously validated by Amey in 2009, and most recently updated by Atkins at 2013, was used as the starting point for the SATURN highway model. The model included all motorways, primary roads, A roads, B roads and the majority of the C roads that carry significant volumes of traffic or are required to provide appropriate representation of access to the villages in the county.

2.1.3 Following agreement with Highways England, the WSCTM was subsequently cordoned to reduce the simulation area, but covered a suitable extent for the area of impact for both A27 schemes.

2.1.4 Extensive recoding of the model network was required to ensure the model was a suitable basis from which to validate and calibrate the base year model to 2015 survey data which included Road Side Interviews (RSIs), Automatic Traffic Counts (ATCs) and Manual Classified Counts (MCCs).

2.1.5 Owing to the proximity of the A27 Arundel Bypass and A27 Worthing and Lancing Improvements schemes, a single base year model has been prepared to validate both schemes, as agreed with Highways England's TAME Division and described in the Appraisal Specification Reports for the A27 Arundel Bypass (HE551523_WSP-PB_A27A_P002_ASR) scheme.

2.1.6 The performance of the base year model is detailed in the Local Model Validation Report (HE551523,4_WSP-PB_A27AWL_P014_LMVR_v1.1.9). Traffic forecasting was carried out assuming an opening year of 2023, with a future design year of 2041 also produced. Details of the traffic forecasting which has been carried out are detail in the Traffic Forecasting Report (HE551523,4_WSP-PB_A27AWL_P013_TFR_1.3.1).

2.1.7 In summary, the time periods covered by the SATURN highway modelling includes the following time periods:

- Average Morning Peak Average Hour (07:00 – 10:00)
- Average Inter Peak Average Hour (10:00 – 16:00)
- Average Evening Peak Average Hour (16:00 – 19:00)

2.1.8 The models cover the following assessment years:

- 2015 (Base Year)
- 2023 (Assumed opening year)
- 2041 (Future horizon year)

2.1.9 The trip matrices were segmented in accordance with the trip purposes identified and surveyed throughout the road side interviews.

2.1.10 These consisted of the following trip purposes:

- Home Based Work
- Home Based Employers' Business
- Home Based Other
- Non-Home Based Employers' Business
- Non-Home Based other.

2.1.11 The segments outlined above were collected for Cars and Light Goods Vehicles (LGV), whilst Heavy Goods Vehicles (HGV) were aggregated in to a single purpose. LGV trip purposes were further aggregated in to 'Personal' and 'Business' use for compliance in TUBA during the scheme economics stage of the assessment.

2.1.12 Table 2.1 shows the overall structure of the demand matrix used through the assignment procedure.

Table 2.1: Matrix Structure (8 User Classes)

Vehicle Class	User Class	Abbreviation Used (Within SATURN)	Matrix Level
Car	Home Based Work	HBW	1
Car	Home Based Employers' Business	HBEB	2
Car	Home Based Other	HBO	3
Car	Non-Home Based Employers' Business	NHBEB	4
Car	Non-Home Based Other	NHBO	5
LGV	Personal (Home Based Work + Home Based Other + Non-Home Based Other)	LGV Personal	6
LGV	Business (Home Based Employers' Business + Non-Home Based Employers' Business)	LGV Business	7
HGV	All	HGV ALL	8

2.1.13 The resulting trip matrix consisted of 8 levels representing different trip purposes and 3 vehicle types (Cars, LGV and HGV).

2.1.14 Full details of the base year modelling are presented in the Local Model Validation Report (LMVR) dated January 2017[1], with details of the forecast modelling presented in the Traffic Forecasting Report dated January 2017[2].

2.1.15 It should be noted that the current modelling approach (cordoned SATURN model from WSCTM) has been agreed and adopted as suitable for PCF Stage 1, until a new fully compliant strategic model is developed.

[1] A27 Arundel PCF Stage 1 – Local Model Validation Report, January 2017

[2] A27 Arundel PCF Stage 1 – Traffic Forecasting Report, January 2017

2.1.16 It is proposed that going forward during PCF Stage 2 strategic modelling will be developed based upon the Highways England South East Regional Model and used to verify the current modelling and assumptions.

2.2 VARIABLE DEMAND MODELLING

2.2.1 It was agreed with Highways England TAME that Variable Demand Modelling (VDM) would not be undertaken at PCF Stage 1. This will be undertaken at Stage 2 using the South East Regional Transport Model.

2.3 ECONOMIC ASSESSMENT PROCESS AND ECONOMIC PARAMETERS USED

2.3.1 The appraisal of the economic elements associated with the scheme has been undertaken using the DfT's standard appraisal software:

- Transport User Benefit Appraisal (TUBA) version 1.9.8
- COst and Benefit to Accidents – Light Touch (COBALT).

2.3.2 Both appraisals were undertaken in accordance with WebTAG Unit A1.1 Cost-Benefit Analysis.

TUBA

2.3.3 The following economic elements have been considered for PCF Stage 1 of the study;

- Time Savings
- Vehicle Operating Costs
- Carbon Savings
- Scheme Costs
- Indirect tax revenue.

2.3.4 TUBA was used to carry out the economic appraisal of all the options associated with the A27 Arundel Bypass scheme. All costs and benefits reported by TUBA are based on willingness to pay and expressed in the market price unit of account.

2.3.5 The economic appraisal was carried out over a 60 year period, from 2023 (opening year) to 2082.

COBALT

2.3.6 COBALT is a computer program developed by Highways England to undertake the analysis of the impact on accidents as part of economic appraisal for a road scheme. It uses detailed inputs of separate road links and road junctions impacted by the scheme. The assessment is based on a comparison of accidents by severity and associated costs across an identified network in 'Without-Scheme' and 'With-Scheme' forecasts, using details of link and junction characteristics, relevant accident rates and costs and forecast traffic volumes by link and junction.

2.4 NON-STANDARD PROCEDURES AND ECONOMIC PARAMETERS

2.4.1 The SATURN modelling was undertaken for private vehicle usage, and Public Transport demand was not explicitly modelled.

2.4.2 Additionally, there is no major public transport improvement scheme proposed on the network included in the model. As such, benefits to public transport users such as reduced journey times have not been included in the overall economic assessment.

3 ESTIMATION OF COSTS

3.1 INTRODUCTION

3.1.1 Highways England provided cost estimates for each of the Arundel scheme options based on estimates produced by their cost consultant, Benchmark Estimating. The estimated costs take account of all anticipated scheme costs (including preparation, land, utilities diversions, construction, and with allowances for inflation and risk).

3.1.2 The expenditure profiles are based upon cost estimates for each financial year prepared in 2014 Q1 prices and then inflated to outturn costs using Highway England's projected construction related inflation. These costs have then been rebased to 2010 calendar year profiles for economic calculations, using the GDP-deflator series as published in the WebTAG Databook. All costs are in the factor cost unit of account and will be funded by Central Government.

3.2 RISK AND OPTIMISM BIAS ASSUMPTIONS

3.2.1 The costs included above include quantified risk derived as part of the estimation process undertaken by Highway England's cost estimation specialists Benchmark along with allowances for uncertainty and programme risk.

3.2.2 The costs exclude all recoverable VAT.

3.3 SCHEME COSTS

3.3.1 Tables detailing costs and spend profile are shown for each Arundel option which has been tested. Appendix A1 provides the cost and spend profiles supplied by Highway England's cost consultant, Benchmark.

ARUNDEL

3.3.2 Table 3.1 shows the overall scheme costs for the various Arundel options. Benchmark provided 'Most Likely' costs which were then rebased to 2010 in the factor cost unit of account. The PVC generated by TUBA is also provided in the table below.

Table 3.1: Arundel – Overall scheme costs

ARUNDEL SCHEME OPTION	TOTAL COST – MOST LIKELY	HE ECONOMICS OUTPUT TABLE	PVC
Option 0A	£39.22M	£30.01M	£25.57M
Option 1	£134.47M	£103.80M	£87.19M
Option 3	£260.00M	£200.55M	£166.99M
Option 5A	£249.34M	£193.11M	£162.01M
Option 5B	£330.33M	£255.65M	£213.76M

3.3.3 Table 3.2 to Table 3.6 detail factor costs and spend profile broken down by year are shown for each Arundel scheme option tested.

Table 3.2: Arundel - Option 0A Scheme Cost and Spend Profile

Total Cost	Construction	Land	Preparation	Supervision
2015 / 2016	0%	0%	0%	0%
2016 / 2017	0%	0%	1%	0%
2017 / 2018	0%	0%	43%	0%
2018 / 2019	0%	0%	20%	0%
2019 / 2020	2%	100%	35%	0%
2020 / 2021	94%	0%	0%	98%
2021 / 2022	4%	0%	0%	2%
Total	**24,309,624**	**927,250**	**3,722,256**	**1,049,636**

Table 3.3: Arundel - Option 1 Scheme Cost and Spend Profile

Total Cost	Construction	Land	Preparation	Supervision
2015 / 2016	0%	0%	0%	0%
2016 / 2017	0%	0%	0%	0%
2017 / 2018	0%	11%	27%	0%
2018 / 2019	0%	0%	23%	0%
2019 / 2020	2%	89%	49%	0%
2020 / 2021	55%	0%	0%	68%
2021 / 2022	43%	0%	0%	32%
Total	**87,104,970**	**5,091,783**	**8,906,837**	**2,692,244**

Table 3.4: Arundel - Option 3 Scheme Cost and Spend Profile

Total Cost	Construction	Land	Preparation	Supervision
2015 / 2016	0%	0%	0%	0%
2016 / 2017	0%	0%	0%	0%
2017 / 2018	0%	0%	21%	0%
2018 / 2019	0%	0%	28%	0%
2019 / 2020	2%	100%	50%	0%
2020 / 2021	40%	0%	0%	53%
2021 / 2022	49%	0%	0%	44%
2022 / 2023	10%	0%	0%	3%
Total	**170,300,179**	**10,714,771**	**14,931,319**	**4,608,636**

Table 3.5: Arundel - Option 5A Scheme Cost and Spend Profile

TOTAL COST	CONSTRUCTION	LAND	PREPARATION	SUPERVISION
2015 / 2016	0%	0%	0%	0%
2016 / 2017	0%	0%	0%	0%
2017 / 2018	0%	0%	22%	0%
2018 / 2019	0%	0%	29%	0%
2019 / 2020	2%	100%	49%	0%
2020 / 2021	56%	0%	0%	68%
2021 / 2022	42%	0%	0%	32%
Total	**165,943,537**	**8,501,683**	**14,757,493**	**3,911,050**

Table 3.6: Arundel - Option 5B Scheme Cost and Spend Profile

TOTAL COST	CONSTRUCTION	LAND	PREPARATION	SUPERVISION
2015 / 2016	0%	0%	0%	0%
2016 / 2017	0%	0%	0%	0%
2017 / 2018	0%	27%	18%	0%
2018 / 2019	0%	0%	28%	0%
2019 / 2020	2%	73%	54%	0%
2020 / 2021	43%	0%	0%	54%
2021 / 2022	49%	0%	0%	44%
2022 / 2023	6%	0%	0%	2%
Total	**216,374,678**	**20,822,169**	**16,558,309**	**1,895,078**

3.4 OPERATIONAL AND MAINTENANCE COSTS

3.4.1 Operational and maintenance costs have not been considered at this stage of assessment. As with the construction costs, it is anticipated there will be significant variance in operational and maintenance costs between the three options.

3.4.2 This assumption requires that no operational and maintenance costs are applied to the Do-Minimum scenario either, which therefore has an outturn cost of zero.

3.5 GRANTS AND SUBSIDIES ALLOWANCE

3.5.1 No grants and subsidies are applicable to these scheme costs. The entire construction cost will be met from central government's broad transport budget.

4 ESTIMATION OF BENEFITS

4.1 INTRODUCTION

4.1.1 The economic appraisal was undertaken in TUBA Version 1.9.8, as mentioned in Section 2.2.

4.1.2 The basic TUBA input consists of two files containing the economic data and scheme data. The economic input file contains all of the economic data and parameters required by TUBA in the economic appraisal.

4.1.3 The scheme input file contains data regarding scheme costs, user classes, modelled years, annualisation factors and input matrices. The scheme input data is described in this section apart from the scheme costs that are already described in Section 3.

4.2 TUBA SCHEME INPUT FILE

4.2.1 This section describes the parameters included in the scheme input file, these include Time slices, scheme opening year, economic horizon year, scheme costs and spend profile. The matrix file inputs are discussed in the following section.

MODELLED YEARS

4.2.2 The economic appraisal was carried out over a 60 year period, from 2023 (opening year) to a horizon year of 2082. Traffic flows have been based on the 2023 and 2041 forecast year SATURN modelling results.

4.2.3 Annualisation factors have been applied to convert peak period flows into annual flows. Details are provided in the following sections.

TIME SCALES / ANNUALISATION

4.2.4 TUBA makes a distinction between time slices and time periods. Standard time periods are defined in the economics file as:

- AM Peak (Weekday 0700 – 1000)
- PM Peak (Weekday 1600 – 1900)
- Inter-peak (Weekday 1000 – 1600)
- Off-peak (Weekday 1900 – 0700)
- Weekend.

4.2.5 The SATURN model does not include weekend and the off-peak periods as origin-destination data were not collected for these time periods, therefore it has not been possible to determine potential benefits for these periods.

4.2.6 The SATURN model has been assigned as an average hour model for the AM peak and PM peak period which enables the benefits for these peak periods to be used in TUBA.

4.2.7 In order to model the time slices in TUBA, an annualisation factor is required to convert to each time period. The annualisation factor is given by h x d where h is the number of this time slice in the time period and d is the number of days a year containing the time period. The annualisation factor is specified in the scheme input file.

4.2.8 From the information detailed above, the modelled time slices used to represent the weekday benefit are detailed below:

- Average AM Peak period average hour time slice
- Average PM Peak period average hour time slice
- Average Inter-peak period average hour time slice.

4.2.9 Using the equation given in paragraph 4.2.7 and the fact that there are 253 peaked weekdays (excludes weekdays falling on bank holidays) the annualisation factors (A) for the time periods used in the TUBA input file are calculated below:

- AM peak A = 3 hour x 253 days) = 759
- PM peak A = 3 hour x 253 days)= 759
- Inter-peak A = 6 hours x 253 days = 1,518.

4.2.10 The benefits produced in this assessment represent a conservative estimate of the total benefits produced from the scheme. This is due to three main reasons:

- No benefits were calculated for weekday off-peak periods (19:00 – 07:00)
- No benefits have been calculated for weekends or bank holidays.

SCHEME COSTS / SPEND PROFILE

4.2.11 The costs for each option estimated by Benchmark, Highways England's cost estimator were supplied in March 2017. The costs for each option including breakdown by cost type and spend profile are included in Section 3.

4.3 MATRIX INPUT

4.3.1 Matrix inputs were required for the number of trips and journey time for each user class and also for trip distance. The trip distance and journey time matrices were taken from the SATURN model directly for the 2023 and 2041 periods.

JOURNEY PURPOSE / USER CLASS

4.3.2 As detailed in the LMVR and Forecasting Report the trip matrices were split into the following vehicle types and journey purposes shown in Table 4.1. The correspondence between the SATURN matrix user classes and TUBA user classes is also shown.

Table 4.1: TUBA to SATURN matrix user class correspondence

SATURN User Class	Vehicle Type	Journey Purpose	TUBA User Class	TUBA Purpose
1	Car	Home Based Work	1	Commuting
2	Car	Home Based Employers Business	2	Business
3	Car	Home Based Other	3	Other
4	Car	Non Home Based Employers Business	4	Business
5	Car	Non Home Based Other	5	Other
6	LGV	Personal	6	Other
7	LGV	Business	7	Business
8	HGV	Business	8	Business
8	HGV	Business	9	Business

4.3.3 For the HGV user class a split between OGV1 and OGV2 was derived using proportions from the RSI data used to build the matrices for the SATURN model, shown in Table 4.2.

Table 4.2: TUBA to SATURN matrix user class correspondence

SATURN Vehicle Type	AM Peak Period (0700-1000)	Inter Peak Period (0800-0900)	AM Peak Period (1600-1900)
OGV1	0.63	0.62	0.58
OGV2	0.37	0.38	0.42

4.4 TUBA ECONOMICS INPUT

4.4.1 The default TUBA economics file (TUBA 1.9.8) has been used and is based on WebTAG Data Book (November 2016.

4.5 TRAVEL TIME SAVINGS

4.5.1 Travel time savings are monetised as a perceived benefit, reflecting users' willingness to pay for a quicker journey. The value of those savings differs depending on the reason for the trip, of which three are defined in WebTAG; business users, commuters, and non-commuting consumers (for example leisure trips).

4.5.2 The costs and benefits for travel time savings have been assessed using TUBA. The trip length, trip volume and journey time information needed for this has been taken from the relevant SATURN models.

4.6 VEHICLE OPERATING COST SAVINGS

4.6.1 Vehicle operating cost savings accrue in two categories; fuel costs, a function of the speed of the vehicle through the network and fuel efficiency, and non-fuel costs such as oil, tyres, vehicle maintenance depreciation and business vehicle capital costs, largely a function of the distance travelled by the vehicle.

4.6.2 The costs and benefits for vehicle operating costs have been assessed using TUBA. The trip length, trip volume and journey time information needed for this has been skimmed from the relevant SATURN models.

4.7 DERIVATION OF ACCIDENT COST SAVINGS

4.7.1 The costs and benefits for accident savings have been assessed using COBALT using the traffic flows from the relevant SATURN models. The results from COBALT analysis have been used to determine the costs and benefits for accident saving.

4.7.2 Full reporting of the COBALT analysis is included in Section 6 of this report.

4.8 DELAYS AND TRAVEL TIME VARIABILITY CHANGES

4.8.1 These have not been assessed as part of PCF Stage 1.

4.9 DERIVATION OF THE COST OF GREENHOUSE GASES

4.9.1 Following advice from Highways England TAME that the Environment Group have previously advised that carbon emission calculations in TUBA are not accurate so that it is preferable to exclude them from the economic calculation entirely, until such time that a compliant analysis can be undertaken.

5 COBALT: ESTIMATION OF COLLISION SAVING

5.1 INTRODUCTION

5.1.1 COBALT was used to assess the safety aspects of road schemes based on a comparison of accidents by severity and associated costs across an identified network in 'Without-Scheme' and 'With-Scheme' forecasts.

5.1.2 The combined analysis method was used to assess the road schemes within the study. This method is based on link input data only and uses the default accident rates specified for the road types within the WebTAG 2016 parameters file.

5.2 LINK INPUTS

5.2.1 In COBALT, link inputs are split into three sections: link classification, link flow and link accident rate. Link classification contains the following criteria:

- Link name – unique link identifier
- Link type – type of link, based on age, design standard and presence of a hard strip
- Link length
- Link speed limit.

5.2.2 The link flow section contains the Annual Average Daily Traffic (AADT) flow for each link specified in the link classification section. This is added for base year and all modelled years.

5.2.3 The link accident rate section is used to add local accident rates for links where they are significantly different from the default accident rates within the parameter file. For this study, the default accident rates were used.

5.1 ANALYSIS METHODOLOGY

5.1.1 In order to reduce the scheme input files and the manual classification of links in-line with the COBALT user guide only links with a forecast difference of +/- 1500 vehicles (AADT) were included within the analysis.

5.1.2 The results of the Arundel COBALT analysis are provided in Section 6.

6 ECONOMIC ASSESSMENT RESULTS: ARUNDEL

6.1 BENEFITS' PROFILE BY TIME PERIOD AND TRAVEL PURPOSE

6.1.1 Table 6.1 to Table 6.3 show the benefits for each scheme broken down by time period for fixed assignment. The results are also presented using the standard Transport Economic Efficiency (TEE), and Analysis of Monetised Costs & Benefits (AMCB) tables in Appendix B.

6.1.2 The results show the benefits of the Arundel scheme options are higher in 2041 compared to 2023 in the majority of cases which shows a certain level of resilience with the proposed schemes. There are however unmitigated sections of the A27 such as the A29 Fontwell Park junctions which show large delays which worsen in 2041 compared to 2023. The increased levels of traffic which the Arundel schemes attract to the A27 further increase the capacity issues experienced at these unmitigated junctions.

Table 6.1: Arundel - Benefits by Time Period, Fixed Assignment: User Time (£000s)

PERIOD	YEAR	OPTION 0A	OPTION 1	OPTION 3	OPTION 5A	OPTION 5B
AM Peak	2023	313	929	1,030	1,187	1,109
	2041	310	912	1,030	1,430	1,274
	Total	16,524	48,639	54,761	73,905	66,283
Inter-Peak	2023	268	1,199	1,348	1,595	1,636
	2041	585	1,571	1,857	2,143	1,890
	Total	28,298	80,262	94,236	109,103	98,246
PM Peak	2023	548	1,378	1,537	1,793	1,267
	2041	1,270	2,585	2,434	3,020	2,270
	Total	61,203	126,829	121,518	149,797	111,886

Table 6.2: Arundel - Benefits by Time Period, Fixed Assignment: Vehicle Operating Costs Fuel (£000s)

PERIOD	YEAR	OPTION 0A	OPTION 1	OPTION 3	OPTION 5A	OPTION 5B
AM Peak	2023	5	60	-57	3	22
	2041	30	81	12	60	73
	Total	1,137	3,393	-12	2,180	2,840
Inter-Peak	2023	7	101	-139	-38	-9
	2041	37	126	-10	64	38
	Total	1,385	5,362	-1,459	2,005	1,334
PM Peak	2023	57	136	17	80	90
	2041	74	146	76	137	91
	Total	3,103	6,341	2,889	5,585	3,984

Table 6.3: Arundel - Benefits by Time Period, Fixed Assignment: Vehicle Operating Costs Non Fuel (£000s)

Period	Year	Option 0A	Option 1	Option 3	Option 5A	Option 5B
AM Peak	2023	4	66	-30	22	30
	2041	27	71	9	50	58
	Total	973	2,982	80	1,907	2,238
Inter-Peak	2023	8	117	-48	33	56
	2041	34	117	6	68	42
	Total	1,233	5,009	-159	2,633	1,913
PM Peak	2023	46	119	12	77	78
	2041	41	102	35	88	57
	Total	1,801	4,475	1,303	3,663	2,610

6.1.3 Table 6.4 to Table 6.6 shows the benefits broken down by trip purpose for fixed assignment.

Table 6.4: Arundel - Benefits by Trip Type, Fixed Assignment: User Time (£000s)

Period	Year	Option 0A	Option 1	Option 3	Option 5A	Option 5B
Business	2023	510	1,650	1,847	2,147	1,959
	2041	994	2,307	2,529	3,090	2,574
	Total	48,610	116,859	128,453	155,991	131,454
Commuting	2023	416	1,186	1,328	1,568	1,284
	2041	765	1,756	1,751	2,237	1,816
	Total	37,619	88,361	89,373	113,058	91,886
Other	2023	203	669	740	860	770
	2041	406	1,005	1,041	1,266	1,043
	Total	19,799	50,495	52,681	63,745	53,068

Table 6.5: Arundel - Benefits by Trip Type, Fixed Assignment: Vehicle Operating Costs Fuel (£000s)

Period	Year	Option 0A	Option 1	Option 3	Option 5A	Option 5B
Business	2023	20	106	-97	44	91
	2041	47	141	22	120	105
	Total	1,849	5,965	3	4,715	4,564
Commuting	2023	31	103	-7	26	42
	2041	50	111	52	89	80
	Total	2,066	4,806	1,828	3,438	3,215
Other	2023	17	89	-75	-26	-31
	2041	44	101	5	50	17
	Total	1,711	4,324	-414	1,616	379

Table 6.6: Arundel - Benefits by Trip Type, Fixed Assignment: Vehicle Operating Costs Non Fuel (£000s)

PERIOD	YEAR	OPTION 0A	OPTION 1	OPTION 3	OPTION 5A	OPTION 5B
Business	2023	37	174	62	169	177
	2041	54	164	84	168	138
	Total	2,169	7,064	3,414	7,167	6,198
Commuting	2023	14	58	-50	-17	4
	2041	25	60	-2	26	29
	Total	991	2,538	-463	757	1,054
Other	2023	7	71	-78	-21	-18
	2041	23	66	-32	13	-10
	Total	846	2,863	-1,728	280	-490

6.2 TRAVEL TIME AND VEHICLE OPERATING BENEFITS

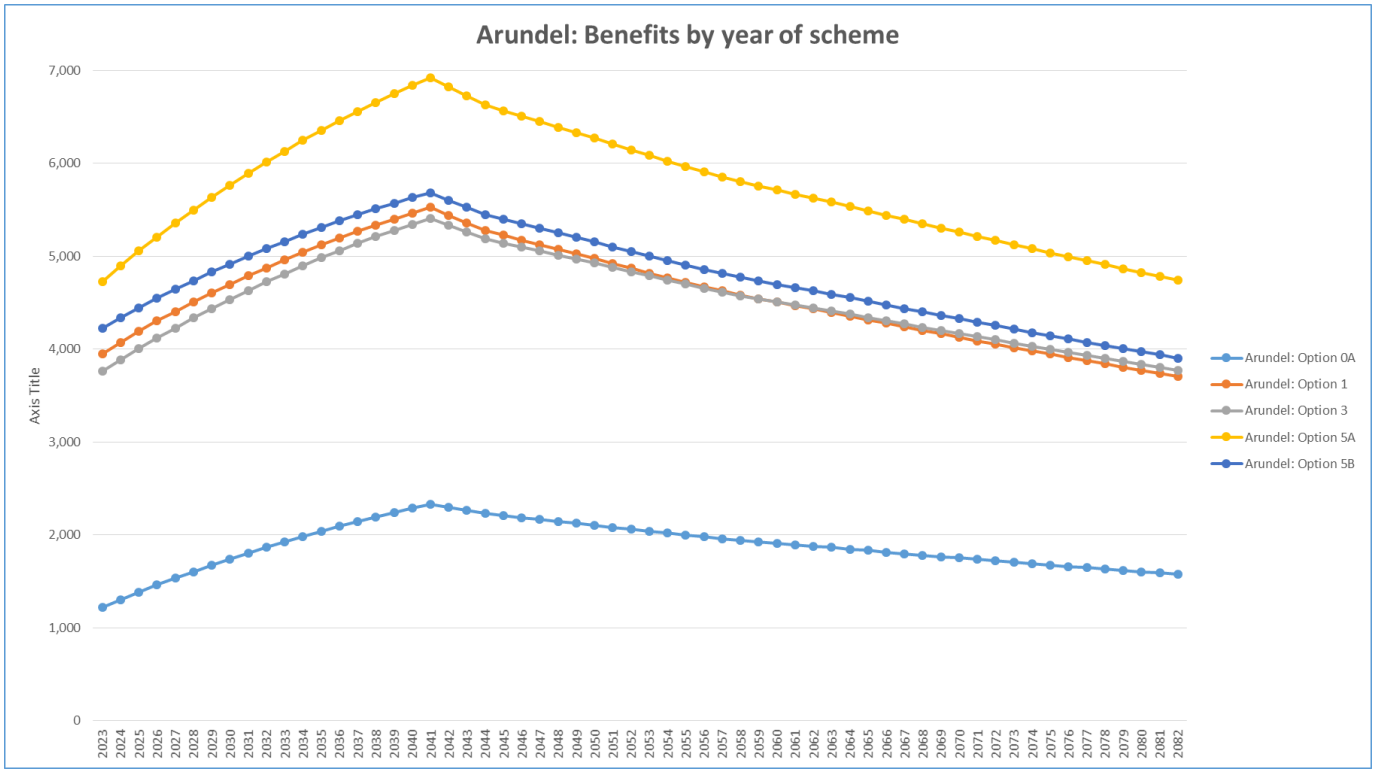
6.2.1 Travel Time and Vehicle Operating results are provided in Section 6.1.

6.3 BENEFITS BY YEAR OF SCHEME

6.3.1 The scheme benefits are explicitly calculated only for the modelled years of 2023 and 2041. Benefits for each year between those years are interpolated from their outputs. The default assumption in TUBA is that there is no growth in the magnitude of impacts after the last modelled year, and this is assumed for the purposes of this scheme; therefore scheme benefits are slowly reduced year-on-year after 2041 due to the effects of inflation and the discounting of benefits further into the future.

6.3.2 The benefits accrued in each year over the life of the scheme, given these assumptions, are shown in Table 6.1, which shows that the scheme benefits peak in 2041 at which point the traffic growth is capped.

Figure 6.1: Benefits by year of scheme (Arundel)



6.4 BENEFITS BY TIME SAVING AND DISTANCE TRAVELLED

6.4.1 The benefits as banded by size of travel time saving are shown in Table 6.7 with the time bands being the defaults used by in TUBA.

6.4.2 As you can see there are benefits delivered from journey time improvements of greater than 2 minutes.

Table 6.7: Scheme benefits by size of travel time saving (in thousands of pounds)

OPTION	MODE AND PURPOSE	<-5 MINS	-5 TO -2 MINS	-2 TO 0 MINS	0 TO 2 MINS	2 TO 5 MINS	>5 MIN
Arundel Option 0A	Car (Business)	0	-2	-11,804	21,288	19,453	1,792
	Car (Commuting)	0	-129	-19,255	24,486	29,711	2,804
	Car (Other)	0	-130	-10,137	13,405	10,475	1,621
	LGV (Personal)	0	-3	-3,180	3,682	3,853	211
	LGV (Freight)	0	-7	-5,185	8,920	7,123	675
	OGV1	0	-14	-1,416	3,025	2,302	0
	OGV2	0	-8	-885	1,848	1,505	0
Arundel Option 1	Car (Business)	0	-1,830	-11,746	16,569	52,217	18,206
	Car (Commuting)	0	-2,039	-21,182	23,508	57,177	30,903
	Car (Other)	0	-1,248	-10,670	12,094	28,672	9,648
	LGV (Personal)	0	-319	-3,436	3,228	8,343	4,188
	LGV (Freight)	0	-439	-5,350	6,412	21,499	6,310
	OGV1	0	-261	-1,357	1,998	7,813	1,003
	OGV2	0	-159	-839	1,220	4,940	660
Arundel Option 3	Car (Business)	0	-1,557	-11,112	13,910	55,539	23,454
	Car (Commuting)	0	-3,227	-20,851	20,002	64,571	28,878
	Car (Other)	0	-805	-9,654	11,536	30,321	9,411
	LGV (Personal)	0	-515	-3,401	2,875	8,893	4,020
	LGV (Freight)	0	-81	-5,345	5,071	24,599	6,626
	OGV1	0	-39	-1,351	1,698	8,034	2,304
	OGV2	0	-25	-843	1,053	4,965	1,552
Arundel Option 5A	Car (Business)	0	-855	-10,821	15,008	57,054	38,308
	Car (Commuting)	0	-2,040	-21,048	21,686	65,040	49,422
	Car (Other)	0	-411	-9,834	11,755	33,217	14,627
	LGV (Personal)	0	-530	-3,542	2,952	9,604	5,909
	LGV (Freight)	0	-163	-5,244	4,956	26,232	11,379
	OGV1	0	-58	-1,381	1,684	7,877	4,230
	OGV2	0	-40	-869	1,044	4,857	2,795
Arundel Option 5B	Car (Business)	0	-3,463	-12,036	14,731	56,563	27,199
	Car (Commuting)	-150	-6,839	-21,560	19,502	69,191	31,742
	Car (Other)	0	-2,529	-10,085	11,041	33,466	9,574
	LGV (Personal)	0	-1,299	-3,788	2,731	9,763	4,196
	LGV (Freight)	0	-1,793	-5,677	5,033	26,692	7,116
	OGV1	0	-338	-1,690	1,288	9,117	2,150
	OGV2	0	-231	-1,058	801	5,695	1,357

6.5 ACCIDENT RESULTS

6.5.1 The results of the COBALT analysis are presented in Table 6.8.

Table 6.8: Arundel Total Accident Benefits (£000)

PERIOD	OPTION 0A	OPTION 1	OPTION 3	OPTION 5A	OPTION 5B
Total Without-Scheme Accident Costs	3,395.1	644,393	655,547	697,549	625,049
Total With-Scheme Accident Costs	3,342.6	605,889	591,832	621,137	538,423
Total Accident Benefits Saved by Scheme	52.5	38,504	63,715	76,412	63,833

6.5.2 Table 6.8 shows that all Arundel scheme options are forecast to provide an accident saving. Option 5A is forecast to provide the largest saving with a total accident benefit of £76.412M.

6.5.3 It is also shown in Table 6.7 that the total accident costs in the Option 0A analysis in both the 'With' and 'Without' scheme scenario is low compared to the other options. This is due to the fact that Option 0A is forecast to have a smaller impact upon traffic and therefore fewer links have a difference in AADT of +/- 1500. As such fewer accidents are captured within the analysis.

6.6 DELAYS AND TRAVEL TIME VARIABILITY RESULTS

6.6.1 These have not been assessed as part of PCF Stage 1.

6.7 DELAY DUE TO CONSTRUCTION AND MAINTENANCE RESULTS

6.7.1 Delays during construction have not been assessed during PCF Stage 1. Construction and maintenance delays will be assessed fully during PCF Stage 2 using the Highways England regional model.

6.8 ENVIRONMENTAL IMPACT RESULTS (GREENHOUSE GASES, AIR QUALITY AND NOISE)

6.8.1 Table 6.9 shows the increase in CO2 emissions for all scheme options for the fixed assignment.

Table 6.9: Arundel - CO2 emissions, fixed assignment (increase in tonnes)

PERIOD	OPTION 0A	OPTION 1	OPTION 3	OPTION 5A	OPTION 5B
AM Peak	-11	-29	12	-1	-2
Inter-Peak	-19	-44	34	13	18
PM Peak	-11	-49	3	-33	-26

6.9 TRANSPORT ECONOMIC EFFICIENCY (TEE) TABLE

6.9.1 Appendix B-1 contains Transport Economic Efficiency (TEE) tables for the Arundel scheme options.

6.10 PUBLIC ACCOUNTS (PA) TABLE

6.10.1 Appendix B-2 contains Public Accounts (PA) tables for the Arundel scheme options.

6.11 ANALYSIS OF MONETISED COSTS AND BENEFITS (AMCB) TABLE

6.11.1 Analysis of the Monetised Costs and Benefits (AMCB) summary tables for the Arundel schemes are provided in Appendix B-3.

6.11.2 Table 6.10 outlines a summary of the results from TUBA for each scheme, providing the Analysis of Monetised Costs and Benefits (AMCB) for each scheme option for the fixed assignment. Table 6.11 shows the BCR with the accident benefits included as part of PCF Stage 1.

Table 6.10: Arundel - Analysis of Monetised Costs and Benefits, Fixed Assignment (TUBA only)

Type	Option 0A (£000s)	Option 1 (£000s)	Option 3 (£000s)	Option 5A (£000s)	Option 5B (£000s)
Greenhouse Gases*	0	0	0	0	0
Economic Efficiency: Consumer Users (Commuting)	40,676	95,704	90,739	117,253	96,154
Economic Efficiency: Consumer Users (Other)	22,356	57,682	50,539	65,641	52,957
Economic Efficiency: Business Users and Providers	52,629	129,889	131,869	167,873	142,217
Wider Public Finances (Indirect Taxation Revenues)	-3,047	-8,129	-863	-5,317	-4,417
Present Value of Benefits (PVB)	112,614	275,146	272,284	345,450	286,911
Broad Transport Budget	25,573	87,190	166,997	162,005	213,756
Present Value of Costs (PVC)	25,573	87,190	166,997	162,005	213,756
Overall Impacts					
Net Present Value (NPV)	87,041	187,956	105,287	183,445	73,155
Benefit to Cost Ratio (BCR)	4.40	3.16	1.63	2.13	1.34

*Note: *to be calculated at a later date*

Table 6.11: Arundel - Analysis of Monetised Costs and Benefits, Fixed Assignment (with Accident Impact

Type	Option 0A (£000s)	Option 1 (£000s)	Option 3 (£000s)	Option 5A (£000s)	Option 5B (£000s)
Present Value of Benefits (PVB) (TUBA)	112,614	275,146	272,284	345,450	286,911
Accident Impacts (COBALT)	53	38,504	63,715	76,412	63,833
Sub Total Value of Benefits (sum of above 2 rows)	112,667	313,650	335,999	421,862	350,744
Present Value of Costs (PVC)	25,573	87,190	166,997	162,005	213,756
Overall Impacts					
Net Present Value (NPV)	87,094	226,460	169,002	259,857	136,988
Benefit to Cost Ratio (BCR)	4.41	3.60	2.01	2.60	1.64

7 SUMMARY

7.1 SUMMARY OF ECONOMIC ASSESSMENT PROCESS

TRAFFIC MODELLING INPUT

7.1.1 The assessment process has used SATURN model outputs to calculate scheme benefits using TUBA and COBALT. All option testing was undertaken using the 2023 and 2041 central growth scenarios. For future PCF Stages, the Highways England South East Regional Transport Model will be used.

ECONOMIC ASSESSMENT

7.1.2 This Economic Assessment has been carried out in accordance with WebTAG guidance. The Present Value of Benefits (PVB), Net Present Value (NPV) and Subtotal Value of Benefits reported indicate that for Arundel Options 0A and Option 1 are likely to provide the greatest overall benefit in economic terms.

7.2 BENEFITS COMPARED TO SCHEME OBJECTIVES

7.2.1 Comparison of options compared to the scheme objectives.

7.3 PREFERRED OPTION RECOMMENDATION

7.3.1 For the various Arundel schemes, Option 0A and Option 1 are shown to produce the highest BCR values. Option 0A is deemed to show a high benefit due to the relatively lower cost of the scheme. Of the bypass scheme options, Option 1 therefore shows the highest economic benefit relative to the cost of the scheme.

7.4 MAJOR ASSUMPTIONS OR CAVEATS AFFECTING THE INTERPRETATION OF RESULTS

7.4.1 There are significant capacity issues shown in the forecast modelling due to the large increases in traffic levels on unmitigated sections of the network, affecting the ability of traffic at certain zones to enter the network. Further revisions of the strategic modelling may be required to alleviate these issues which will have a subsequent impact on both the base year and forecast year modelling. This will be carried out at Stage 2 using the regional model.

Appendix A

BENCHMARK COST ESTIMATION

APPENDIX A-1

BENCHMARK ESTIMATE – ARUNDEL

ECONOMICS INFORMATION FOR THE WHOLE PACKAGE

OPTION 0A

PROJECT NAME:	**A27 Arundel Bypass**
PROJECT STAGE:	**1. Options - Options Identification**
PROJECT SCOPE:	
0	

IF YOU HAVE ANY QUESTIONS REGARDING THE INFORMATION PROVIDED PLEASE CONTACT CommercialServicesDivision@highwaysengland.co.uk

RANGE ESTIMATES

Minimum (P10) £m	Most Likely £m	Maximum (P90) £m
27.92	**39.22**	**73.91**

REBASED 2010 CALENDAR YEAR PROFILES FOR ECONOMIC CALCULATIONS - ALL COSTS ARE IN THE FACTOR COST UNIT OF ACCOUNT

The expenditure profiles are based upon cost estimates for each financial year prepared in 2014 Q1 prices and then inflated to outturn costs using HA projected construction related inflation. These costs have then been rebased to 2010 calender year profiles for economic calculations, using the GDP-deflator series as published in the WebTAG Databook.

The costs exclude all recoverable VAT. All historic costs have been removed - previous years and an approximate of this years spend that occurs in the past.

	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	Total (Excl Hist)
PREPARATION EXPENDITURE PROFILE	£14,713	£25,529	£1,616,842	£747,897	£1,317,275	£0	£0	£3,722,256
SUPERVISION EXPENDITURE PROFILE	£0	£0	£0	£0	£0	£1,027,994	£21,642	£1,049,636
WORKS EXPENDITURE PROFILE	£0	£0	£0	£0	£601,621	£22,831,221	£876,783	£24,309,624
LANDS EXPENDITURE PROFILE	£0	£0	£0	£0	£927,250	£0	£0	£927,250
TOTAL EXPENDITURE FORECAST	**£14,713**	**£25,529**	**£1,616,842**	**£747,897**	**£2,846,145**	**£23,859,215**	**£898,425**	**£30,008,766**

PREPARATION EXPENDITURE PROFILE	0%	1%	43%	20%	35%	0%	0%	100%
SUPERVISION EXPENDITURE PROFILE	0%	0%	0%	0%	0%	98%	2%	100%
WORKS EXPENDITURE PROFILE	0%	0%	0%	0%	2%	94%	4%	100%
LANDS EXPENDITURE PROFILE	0%	0%	0%	0%	100%	0%	0%	100%
TOTAL EXPENDITURE FORECAST (ALL COSTS INCLUDED)	**0.0%**	**0.1%**	**5.4%**	**2.5%**	**9.5%**	**79.5%**	**3.0%**	**100.0%**

ECONOMICS INFORMATION FOR THE WHOLE PACKAGE

OPTION 1

PROJECT NAME:	**A27 Arundel Bypass**
PROJECT STAGE:	**1. Options - Options Identification**
PROJECT SCOPE:	
0	

IF YOU HAVE ANY QUESTIONS REGARDING THE INFORMATION PROVIDED PLEASE CONTACT CommercialServicesDivision@highwaysengland.co.uk

RANGE ESTIMATES

Minimum (P10) £m	Most Likely £m	Maximum (P90) £m
96.09	**134.47**	**250.17**

REBASED 2010 CALENDAR YEAR PROFILES FOR ECONOMIC CALCULATIONS - ALL COSTS ARE IN THE FACTOR COST UNIT OF ACCOUNT

The expenditure profiles are based upon cost estimates for each financial year prepared in 2014 Q1 prices and then inflated to outturn costs using HA projected construction related inflation. These costs have then been rebased to 2010 calender year profiles for economic calculations, using the GDP-deflator series as published in the WebTAG Databook.

The costs exclude all recoverable VAT. All historic costs have been removed - previous years and an approximate of this years spend that occurs in the past.

	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	otal (Excl His
PREPARATION EXPENDITURE PROFILE	£11,400	£26,586	£2,416,429	£2,087,811	£4,364,611	£0	£0	£8,906,837
SUPERVISION EXPENDITURE PROFILE	£0	£0	£0	£0	£4,374	£1,832,259	£855,612	£2,692,244
WORKS EXPENDITURE PROFILE	£0	£0	£0	£0	£1,815,679	£47,739,201	£37,550,090	£87,104,970
LANDS EXPENDITURE PROFILE	£0	£0	£581,351	£0	£4,510,432	£0	£0	£5,091,783
TOTAL EXPENDITURE FORECAST	**£11,400**	**£26,586**	**£2,997,780**	**£2,087,811**	**£10,695,096**	**£49,571,459**	**£38,405,702**	**£103,795,834**

PREPARATION EXPENDITURE PROFILE	0%	0%	27%	23%	49%	0%	0%	100%
SUPERVISION EXPENDITURE PROFILE	0%	0%	0%	0%	0%	68%	32%	100%
WORKS EXPENDITURE PROFILE	0%	0%	0%	0%	2%	55%	43%	100%
LANDS EXPENDITURE PROFILE	0%	0%	11%	0%	89%	0%	0%	100%
TOTAL EXPENDITURE FORECAST (ALL COSTS INCLUDED)	**0.0%**	**0.0%**	**2.9%**	**2.0%**	**10.3%**	**47.8%**	**37.0%**	**100.0%**

ECONOMICS INFORMATION FOR THE WHOLE PACKAGE

OPTION 3

PROJECT NAME:	**A27 Arundel Bypass**
PROJECT STAGE:	**1. Options - Options Identification**
PROJECT SCOPE:	
0	

RANGE ESTIMATES

Minimum (P10) £m	Most Likely £m	Maximum (P90) £m
207.54	260	853.18

IF YOU HAVE ANY QUESTIONS REGARDING THE INFORMATION PROVIDED PLEASE CONTACT CommercialServicesDivision@highwaysengland.co.uk

REBASED 2010 CALENDAR YEAR PROFILES FOR ECONOMIC CALCULATIONS - ALL COSTS ARE IN THE FACTOR COST UNIT OF ACCOUNT

The expenditure profiles are based upon cost estimates for each financial year prepared in 2014 Q1 prices and then inflated to outturn costs using HA projected construction related inflation. These costs have then been rebased to 2010 calender year profiles for economic calculations, using the GDP-deflator series as published in the WebTAG Databook.

The costs exclude all recoverable VAT. All historic costs have been removed - previous years and an approximate of this years spend that occurs in the past.

	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	Total (Excl Hist)
PREPARATION EXPENDITURE PROFILE	£11,517	£26,859	£3,187,076	£4,208,135	£7,497,732	£0	£0	£0	£14,931,319
SUPERVISION EXPENDITURE PROFILE	£0	£0	£0	£0	£5,590	£2,433,477	£2,035,988	£133,581	£4,608,636
WORKS EXPENDITURE PROFILE	£0	£0	£0	£0	£2,803,788	£67,717,063	£83,495,982	£16,283,346	£170,300,179
LANDS EXPENDITURE PROFILE	£0	£0	£0	£0	£10,714,771	£0	£0	£0	£10,714,771
TOTAL EXPENDITURE FORECAST	**£11,517**	**£26,859**	**£3,187,076**	**£4,208,135**	**£21,021,882**	**£70,150,540**	**£85,531,969**	**£16,416,927**	**£200,554,906**

PREPARATION EXPENDITURE PROFILE	0%	0%	21%	28%	50%	0%	0%	0%	100%
SUPERVISION EXPENDITURE PROFILE	0%	0%	0%	0%	0%	53%	44%	3%	100%
WORKS EXPENDITURE PROFILE	0%	0%	0%	0%	2%	40%	49%	10%	100%
LANDS EXPENDITURE PROFILE	0%	0%	0%	0%	100%	0%	0%	0%	100%
TOTAL EXPENDITURE FORECAST (ALL COSTS INCLUDED)	**0.0%**	**0.0%**	**1.6%**	**2.1%**	**10.5%**	**35.0%**	**42.6%**	**8.2%**	**100.0%**

ECONOMICS INFORMATION FOR THE WHOLE PACKAGE

OPTION 5A

PROJECT NAME:	**A27 Arundel Bypass**
PROJECT STAGE:	**1. Options - Options Identification**
PROJECT SCOPE:	
0	

RANGE ESTIMATES

Minimum (P10) £m	Most Likely £m	Maximum (P90) £m
199.76	**249.34**	**772.48**

IF YOU HAVE ANY QUESTIONS REGARDING THE INFORMATION PROVIDED PLEASE CONTACT CommercialServicesDivision@highwaysengland.co.uk

REBASED 2010 CALENDAR YEAR PROFILES FOR ECONOMIC CALCULATIONS - ALL COSTS ARE IN THE FACTOR COST UNIT OF ACCOUNT

The expenditure profiles are based upon cost estimates for each financial year prepared in 2014 Q1 prices and then inflated to outturn costs using HA projected construction related inflation. These costs have then been rebased to 2010 calender year profiles for economic calculations, using the GDP-deflator series as published in the WebTAG Databook.

The costs exclude all recoverable VAT. All historic costs have been removed - previous years and an approximate of this years spend that occurs in the past.

	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	otal (Excl His
PREPARATION EXPENDITURE PROFILE	£11,505	£26,832	£3,235,474	£4,228,855	£7,254,826	£0	£0	£14,757,493
SUPERVISION EXPENDITURE PROFILE	£0	£0	£0	£0	£6,353	£2,661,741	£1,242,956	£3,911,050
WORKS EXPENDITURE PROFILE	£0	£0	£0	£0	£3,551,109	£92,418,571	£69,973,857	£165,943,537
LANDS EXPENDITURE PROFILE	£0	£0	£0	£0	£8,501,683	£0	£0	£8,501,683
TOTAL EXPENDITURE FORECAST	**£11,505**	**£26,832**	**£3,235,474**	**£4,228,855**	**£19,313,971**	**£95,080,312**	**£71,216,813**	**£193,113,763**

PREPARATION EXPENDITURE PROFILE	0%	0%	22%	29%	49%	0%	0%	100%
SUPERVISION EXPENDITURE PROFILE	0%	0%	0%	0%	0%	68%	32%	100%
WORKS EXPENDITURE PROFILE	0%	0%	0%	0%	2%	56%	42%	100%
LANDS EXPENDITURE PROFILE	0%	0%	0%	0%	100%	0%	0%	100%
TOTAL EXPENDITURE FORECAST (ALL COSTS INCLUDED)	**0.0%**	**0.0%**	**1.7%**	**2.2%**	**10.0%**	**49.2%**	**36.9%**	**100.0%**

ECONOMICS INFORMATION FOR THE WHOLE PACKAGE

OPTION 5B

PROJECT NAME:	**A27 Arundel Bypass**
PROJECT STAGE:	**1. Options - Options Identification**
PROJECT SCOPE:	
0	

RANGE ESTIMATES

Minimum (P10) £m	Most Likely £m	Maximum (P90) £m
259.65	**330.33**	**889.62**

IF YOU HAVE ANY QUESTIONS REGARDING THE INFORMATION PROVIDED PLEASE CONTACT CommercialServicesDivision@highwaysengland.co.uk

REBASED 2010 CALENDAR YEAR PROFILES FOR ECONOMIC CALCULATIONS - ALL COSTS ARE IN THE FACTOR COST UNIT OF ACCOUNT

The expenditure profiles are based upon cost estimates for each financial year prepared in 2014 Q1 prices and then inflated to outturn costs using HA projected construction related inflation. These costs have then been rebased to 2010 calender year profiles for economic calculations, using the GDP-deflator series as published in the WebTAG Databook.

The costs exclude all recoverable VAT. All historic costs have been removed - previous years and an approximate of this years spend that occurs in the past.

	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	Total (Excl Hist)
PREPARATION EXPENDITURE PROFILE	£12,359	£28,823	£2,938,353	£4,658,918	£8,919,856	£0	£0	£0	£16,558,309
SUPERVISION EXPENDITURE PROFILE	£0	£0	£0	£0	£2,366	£1,030,054	£827,753	£34,904	£1,895,078
WORKS EXPENDITURE PROFILE	£0	£0	£0	£0	£3,894,554	£92,583,686	£106,362,351	£13,534,087	£216,374,678
LANDS EXPENDITURE PROFILE	£0	£0	£5,670,543	£0	£15,151,626	£0	£0	£0	£20,822,169
TOTAL EXPENDITURE FORECAST	**£12,359**	**£28,823**	**£8,608,896**	**£4,658,918**	**£27,968,402**	**£93,613,740**	**£107,190,105**	**£13,568,991**	**£255,650,234**

PREPARATION EXPENDITURE PROFILE	0%	0%	18%	28%	54%	0%	0%	0%	100%
SUPERVISION EXPENDITURE PROFILE	0%	0%	0%	0%	0%	54%	44%	2%	100%
WORKS EXPENDITURE PROFILE	0%	0%	0%	0%	2%	43%	49%	6%	100%
LANDS EXPENDITURE PROFILE	0%	0%	27%	0%	73%	0%	0%	0%	100%
TOTAL EXPENDITURE FORECAST (ALL COSTS INCLUDED)	**0.0%**	**0.0%**	**3.4%**	**1.8%**	**10.9%**	**36.6%**	**41.9%**	**5.3%**	**100.0%**

Appendix B

SUMMARY OF TUBA OUTPUTS

highways england

APPENDIX B-1

TEE TABLES

Economic Efficiency of the Transport System (TEE) - Arundel Option 0A

Non-business: Commuting	**ALL MODES**	**ROAD**		**BUS and COACH**	**RAIL**	**OTHER**
User benefits	**TOTAL**	**Private Cars and LGVs**		**Passengers**	**Passengers**	
Travel time	37619	37619		0	0	
Vehicle operating costs	3056	3056				
User charges	0	0		0	0	
During Construction & Maintenance	0	0		0	0	
COMMUTING	40675	40675		0	0	

Non-business: Other	**ALL MODES**	**ROAD**		**BUS and COACH**	**RAIL**	**OTHER**
User benefits	**TOTAL**	**Private Cars and LGVs**		**Passengers**	**Passengers**	
Travel time	19799	19799		0	0	
Vehicle operating costs	2557	2557				
User charges	0	0		0	0	
During Construction & Maintenance	0	0		0	0	
NET NON-BUSINESS BENEFITS: OTHER	22356	22356		0	0	

Business							
User benefits		**Road (Personal)**	**Road (Freight)**	**Passengers**	**Freight**	**Passengers**	
Travel time	48610	30728	17882	0	0	0	
Vehicle operating costs	4018	1312	2706				
User charges	0	0	0	0	0	0	
During Construction & Maintenance	0	0	0	0	0	0	
Subtotal	52628	32040	20588	0	0	0	
Private sector provider impacts					**Freight**	**Passengers**	
Revenue	0				0	0	
Operating costs	0				0	0	
Investment costs	0				0	0	
Grant/subsidy	0				0	0	
Subtotal	0				0	0	
Other business impacts							
Developer contributions	0						
NET BUSINESS IMPACT	52628						

TOTAL	
Present Value of Transport Economic Efficiency Benefits (TEE)	115659

Notes: Benefits appear as positive numbers, while costs appear as negative numbers.
All entries are discounted present values, in 2010 prices and values

Economic Efficiency of the Transport System (TEE) - Arundel Option 1

Non-business: Commuting	**ALL MODES**	**ROAD**		**BUS and COACH**	**RAIL**	**OTHER**
User benefits	**TOTAL**	**Private Cars and LGVs**		**Passengers**	**Passengers**	
Travel time	88361	88361		0	0	
Vehicle operating costs	7343	7343				
User charges	0	0		0	0	
During Construction & Maintenance	0	0		0	0	
COMMUTING	95704	95704		0	0	

Non-business: Other	**ALL MODES**	**ROAD**		**BUS and COACH**	**RAIL**	**OTHER**
User benefits	**TOTAL**	**Private Cars and LGVs**		**Passengers**	**Passengers**	
Travel time	50495	50495		0	0	
Vehicle operating costs	7187	7187				
User charges	0	0		0	0	
During Construction & Maintenance	0	0		0	0	
NET NON-BUSINESS BENEFITS: OTHER	57682	57682		0	0	

Business							
User benefits		**Road (Personal)**	**Road (Freight)**	**Passengers**	**Freight**	**Passengers**	
Travel time	116859	73413	43446	0	0	0	
Vehicle operating costs	13030	3986	9044				
User charges	0	0	0	0	0	0	
During Construction & Maintenance	0	0	0	0	0	0	
Subtotal	129889	77399	52490	0	0	0	
Private sector provider impacts					**Freight**	**Passengers**	
Revenue	0				0	0	
Operating costs	0				0	0	
Investment costs	0				0	0	
Grant/subsidy	0				0	0	
Subtotal	0				0	0	
Other business impacts							
Developer contributions	0						
NET BUSINESS IMPACT	129889						

TOTAL	
Present Value of Transport Economic Efficiency Benefits (TEE)	283275

Notes: Benefits appear as positive numbers, while costs appear as negative numbers.
All entries are discounted present values, in 2010 prices and values

Economic Efficiency of the Transport System (TEE) - Arundel Option 3

Non-business: Commuting	**ALL MODES**	**ROAD**		**BUS and COACH**	**RAIL**	**OTHER**
User benefits	**TOTAL**	**Private Cars and LGVs**		**Passengers**	**Passengers**	
Travel time	89373	89373		0	0	
Vehicle operating costs	1365	1365				
User charges	0	0		0	0	
During Construction & Maintenance	0	0		0	0	
COMMUTING	90738	90738		0	0	
Non-business: Other	**ALL MODES**	**ROAD**		**BUS and COACH**	**RAIL**	**OTHER**
User benefits	**TOTAL**	**Private Cars and LGVs**		**Passengers**	**Passengers**	
Travel time	52681	52681		0	0	
Vehicle operating costs	-2142	-2142				
User charges	0	0		0	0	
During Construction & Maintenance	0	0		0	0	
NET NON-BUSINESS BENEFITS: OTHER	50539	50539		0	0	
Business						
User benefits		**Road (Personal)**	**Road (Freight)**	**Passengers**	**Freight**	**Passengers**
Travel time	128452	80235	48217	0	0	0
Vehicle operating costs	3417	1835	1582			
User charges	0	0	0	0	0	0
During Construction & Maintenance	0	0	0	0	0	0
Subtotal	131869	82070	49799	0	0	0
Private sector provider impacts					**Freight**	**Passengers**
Revenue	0				0	0
Operating costs	0				0	0
Investment costs	0				0	0
Grant/subsidy	0				0	0
Subtotal	0				0	0
Other business impacts						
Developer contributions	0					
NET BUSINESS IMPACT	131869					
TOTAL						
Present Value of Transport Economic Efficiency Benefits (TEE)	273146					

Notes: Benefits appear as positive numbers, while costs appear as negative numbers.
All entries are discounted present values, in 2010 prices and values

Economic Efficiency of the Transport System (TEE) - Arundel Option 5A

Non-business: Commuting	**ALL MODES**	**ROAD**		**BUS and COACH**	**RAIL**	**OTHER**
User benefits	**TOTAL**	**Private Cars and LGVs**		**Passengers**	**Passengers**	
Travel time	113058	113058		0	0	
Vehicle operating costs	4195	4195				
User charges	0	0		0	0	
During Construction & Maintenance	0	0		0	0	
COMMUTING	117253	117253		0	0	

Non-business: Other	**ALL MODES**	**ROAD**		**BUS and COACH**	**RAIL**	**OTHER**
User benefits	**TOTAL**	**Private Cars and LGVs**		**Passengers**	**Passengers**	
Travel time	63745	203959		0	0	
Vehicle operating costs	1896	6047				
User charges	0	0		0	0	
During Construction & Maintenance	0	0		0	0	
NET NON-BUSINESS BENEFITS: OTHER	65641	21006		0	0	

Business							
User benefits		**Road (Personal)**	**Road (Freight)**	**Passengers**	**Freight**	**Passengers**	
Travel time	155990	98693	57297	0	0	0	
Vehicle operating costs	11882	3661	8221				
User charges	0	0	0	0	0	0	
During Construction & Maintenance	0	0	0	0	0	0	
Subtotal	167872	102354	65518	0	0	0	
Private sector provider impacts					**Freight**	**Passengers**	
Revenue	0				0	0	
Operating costs	0				0	0	
Investment costs	0				0	0	
Grant/subsidy	0				0	0	
Subtotal	0				0	0	
Other business impacts							
Developer contributions	0						
NET BUSINESS IMPACT	167872						

TOTAL	
Present Value of Transport Economic Efficiency Benefits (TEE)	350766

Notes: Benefits appear as positive numbers, while costs appear as negative numbers.
All entries are discounted present values, in 2010 prices and values

Economic Efficiency of the Transport System (TEE) - Arundel Option 5B

Non-business: Commuting	**ALL MODES**	**ROAD**		**BUS and COACH**	**RAIL**	**OTHER**
User benefits	**TOTAL**	**Private Cars and LGVs**		**Passengers**	**Passengers**	
Travel time	91886	91886		0	0	
Vehicle operating costs	4268	4268				
User charges	0	0		0	0	
During Construction & Maintenance	0	0		0	0	
COMMUTING	96154	96154		0	0	
Non-business: Other	**ALL MODES**	**ROAD**		**BUS and COACH**	**RAIL**	**OTHER**
User benefits	**TOTAL**	**Private Cars and LGVs**		**Passengers**	**Passengers**	
Travel time	53068	112590		0	0	
Vehicle operating costs	-112	-112				
User charges	0	0		0	0	
During Construction & Maintenance	0	0		0	0	
NET NON-BUSINESS BENEFITS: OTHER	52956	161497		0	0	
Business						
User benefits		**Road (Personal)**	**Road (Freight)**	**Passengers**	**Freight**	**Passengers**
Travel time	131454	82994	48460	0	0	0
Vehicle operating costs	10762	2768	7994			
User charges	0	0	0	0	0	0
During Construction & Maintenance	0	0	0	0	0	0
Subtotal	142216	85762	56454	0	0	0
Private sector provider impacts					**Freight**	**Passengers**
Revenue	0				0	0
Operating costs	0				0	0
Investment costs	0				0	0
Grant/subsidy	0				0	0
Subtotal	0				0	0
Other business impacts						
Developer contributions	0					
NET BUSINESS IMPACT	142216					
TOTAL						
Present Value of Transport Economic Efficiency Benefits (TEE)	291326					

Notes: Benefits appear as positive numbers, while costs appear as negative numbers.
All entries are discounted present values, in 2010 prices and values

highways england

APPENDIX B-2

PA TABLES

Public Accounts (PA) Table - Arundel Option 0A

	ALL MODES		ROAD	BUS and COACH	RAIL	OTHER
Local Government Funding	**TOTAL**		**INFRASTRUCTURE**			
Revenue	0		0			0
Operating Costs	0		0			0
Investment Costs	0		0			0
Developer and Other Contributions	0		0	0	0	0
Grant/Subsidy Payments	0		0	0	0	0
NET IMPACT	0	*(7)*	0	0	0	0
Central Government Funding: Transport						
Revenue	0		0			0
Operating costs	0		0			0
Investment Costs	25573		25573			0
Developer and Other Contributions	0		0	0	0	0
Grant/Subsidy Payments	0		0	0	0	0
NET IMPACT	25573	*(8)*	25573	0	0	0
Central Government Funding: Non-Transport						
Indirect Tax Revenues	3047	*(9)*	3047	0	0	0
TOTALS						
Broad Transport Budget	25573	*(10) = (7) + (8)*				
Wider Public Finances	3047	*(11) = (9)*				

Notes: Costs appear as positive numbers, while revenues and 'Developer and Other Contributions' appear as negative numbers.
All entries are discounted present values in 2010 prices and values.

Public Accounts (PA) Table - Arundel Option 1

	ALL MODES		ROAD	BUS and COACH	RAIL	OTHER
Local Government Funding	**TOTAL**		**INFRASTRUCTURE**			
Revenue	0		0			0
Operating Costs	0		0			0
Investment Costs	0		0			0
Developer and Other Contributions	0		0	0	0	0
Grant/Subsidy Payments	0		0	0	0	0
NET IMPACT	0	*(7)*	0	0	0	0
Central Government Funding: Transport						
Revenue	0		0			0
Operating costs	0		0			0
Investment Costs	87190		87190			0
Developer and Other Contributions	0		0	0	0	0
Grant/Subsidy Payments	0		0	0	0	0
NET IMPACT	87190	*(8)*	87190	0	0	0
Central Government Funding: Non-Transport						
Indirect Tax Revenues	8129	*(9)*	8129	0	0	0
TOTALS						
Broad Transport Budget	87190	*(10) = (7) + (8)*				
Wider Public Finances	8129	*(11) = (9)*				

Notes: Costs appear as positive numbers, while revenues and 'Developer and Other Contributions' appear as negative numbers.
All entries are discounted present values in 2010 prices and values.

Public Accounts (PA) Table - Arundel Option 3

	ALL MODES		ROAD	BUS and COACH	RAIL	OTHER
Local Government Funding	**TOTAL**		**INFRASTRUCTURE**			
Revenue	0		0			0
Operating Costs	0		0			0
Investment Costs	0		0			0
Developer and Other Contributions	0		0	0	0	0
Grant/Subsidy Payments	0		0	0	0	0
NET IMPACT	0	*(7)*	0	0	0	0
Central Government Funding: Transport						
Revenue	0		0			0
Operating costs	0		0			0
Investment Costs	166997		166997			0
Developer and Other Contributions	0		0	0	0	0
Grant/Subsidy Payments	0		0	0	0	0
NET IMPACT	166997	*(8)*	166997	0	0	0
Central Government Funding: Non-Transport						
Indirect Tax Revenues	863	*(9)*	863	0	0	0
TOTALS						
Broad Transport Budget	166997	*(10) = (7) + (8)*				
Wider Public Finances	863	*(11) = (9)*				

Notes: Costs appear as positive numbers, while revenues and 'Developer and Other Contributions' appear as negative numbers.
All entries are discounted present values in 2010 prices and values.

Public Accounts (PA) Table - Arundel Option 5A

	ALL MODES		ROAD	BUS and COACH	RAIL	OTHER
Local Government Funding	**TOTAL**		**INFRASTRUCTURE**			
Revenue	0		0			0
Operating Costs	0		0			0
Investment Costs	0		0			0
Developer and Other Contributions	0		0	0	0	0
Grant/Subsidy Payments	0		0	0	0	0
NET IMPACT	0	*(7)*	0	0	0	0
Central Government Funding: Transport						
Revenue	0		0			0
Operating costs	0		0			0
Investment Costs	162005		162005			0
Developer and Other Contributions	0		0	0	0	0
Grant/Subsidy Payments	0		0	0	0	0
NET IMPACT	162005	*(8)*	162005	0	0	0
Central Government Funding: Non-Transport						
Indirect Tax Revenues	5317	*(9)*	5317	0	0	0
TOTALS						
Broad Transport Budget	162005	*(10) = (7) + (8)*				
Wider Public Finances	5317	*(11) = (9)*				

Notes: Costs appear as positive numbers, while revenues and 'Developer and Other Contributions' appear as negative numbers.
All entries are discounted present values in 2010 prices and values.

Public Accounts (PA) Table - Arundel Option 5B

	ALL MODES		ROAD	BUS and COACH	RAIL	OTHER
Local Government Funding	**TOTAL**		**INFRASTRUCTURE**			
Revenue	0		0			0
Operating Costs	0		0			0
Investment Costs	0		0			0
Developer and Other Contributions	0		0	0	0	0
Grant/Subsidy Payments	0		0	0	0	0
NET IMPACT	0	*(7)*	0	0	0	0
Central Government Funding: Transport						
Revenue	0		0			0
Operating costs	0		0			0
Investment Costs	213756		213756			0
Developer and Other Contributions	0		0	0	0	0
Grant/Subsidy Payments	0		0	0	0	0
NET IMPACT	213756	*(8)*	213756	0	0	0
Central Government Funding: Non-Transport						
Indirect Tax Revenues	4417	*(9)*	4417	0	0	0
TOTALS						
Broad Transport Budget	213756	*(10) = (7) + (8)*				
Wider Public Finances	4417	*(11) = (9)*				

Notes: Costs appear as positive numbers, while revenues and 'Developer and Other Contributions' appear as negative numbers.
All entries are discounted present values in 2010 prices and values.

APPENDIX B-3

AMCB TABLES

Analysis of Monetised Costs and Benefits - Arundel Option 0A

Greenhouse Gases	0	*(14)*
Accidents	53	*(17)*
Economic Efficiency: Consumer Users (Commuting)	40676	*(1a)*
Economic Efficiency: Consumer Users (Other)	22356	*(1b)*
Economic Efficiency: Business Users and Providers	52629	*(5)*
Wider Public Finances (Indirect Taxation Revenues)	-3047	*- (11) - sign changed from PA table, as PA table represents costs, not benefits*
Present Value of Benefits (see notes) (PVB)	112667	*(PVB) = (12) + (13) + (14) + (15) + (16) + (17) + (1a) + (1b) + (5) - (11)*
Broad Transport Budget	25573	*(10)*
Present Value of Costs (see notes) (PVC)	25573	*(PVC) = (10)*
OVERALL IMPACTS		
Net Present Value (NPV)	87094	NPV=PVB-PVC
Benefit to Cost Ratio (BCR)	4.41	BCR=PVB/PVC

Note : This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

Analysis of Monetised Costs and Benefits - Arundel Option 1

Greenhouse Gases	0	*(14)*
Accidents	38504	*(17)*
Economic Efficiency: Consumer Users (Commuting)	95704	*(1a)*
Economic Efficiency: Consumer Users (Other)	57682	*(1b)*
Economic Efficiency: Business Users and Providers	129889	*(5)*
Wider Public Finances (Indirect Taxation Revenues)	-8129	*- (11) - sign changed from PA table, as PA table represents costs, not benefits*
Present Value of Benefits (see notes) (PVB)	313650	*(PVB) = (12) + (13) + (14) + (15) + (16) + (17) + (1a) + (1b) + (5) - (11)*
Broad Transport Budget	87190	*(10)*
Present Value of Costs (see notes) (PVC)	87190	*(PVC) = (10)*
OVERALL IMPACTS		
Net Present Value (NPV)	226460	NPV=PVB-PVC
Benefit to Cost Ratio (BCR)	3.60	BCR=PVB/PVC

Note : This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

Analysis of Monetised Costs and Benefits - Option 3

Greenhouse Gases	0	*(14)*
Accidents	63715	*(17)*
Economic Efficiency: Consumer Users (Commuting)	90739	*(1a)*
Economic Efficiency: Consumer Users (Other)	50539	*(1b)*
Economic Efficiency: Business Users and Providers	131869	*(5)*
Wider Public Finances (Indirect Taxation Revenues)	-863	*- (11) - sign changed from PA table, as PA table represents costs, not benefits*
Present Value of Benefits (see notes) (PVB)	335999	*(PVB) = (12) + (13) + (14) + (15) + (16) + (17) + (1a) + (1b) + (5) - (11)*
Broad Transport Budget	166997	*(10)*
Present Value of Costs (see notes) (PVC)	166997	*(PVC) = (10)*
OVERALL IMPACTS		
Net Present Value (NPV)	169002	NPV=PVB-PVC
Benefit to Cost Ratio (BCR)	2.01	BCR=PVB/PVC

Note : This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

Analysis of Monetised Costs and Benefits - Option 5A

Greenhouse Gases	0	*(14)*
Accidents	76412	*(17)*
Economic Efficiency: Consumer Users (Commuting)	117253	*(1a)*
Economic Efficiency: Consumer Users (Other)	65641	*(1b)*
Economic Efficiency: Business Users and Providers	167873	*(5)*
Wider Public Finances (Indirect Taxation Revenues)	-5317	*- (11) - sign changed from PA table, as PA table represents costs, not benefits*
Present Value of Benefits (see notes) (PVB)	421862	*(PVB) = (12) + (13) + (14) + (15) + (16) + (17) + (1a) + (1b) + (5) - (11)*
Broad Transport Budget	162005	*(10)*
Present Value of Costs (see notes) (PVC)	162005	*(PVC) = (10)*
OVERALL IMPACTS		
Net Present Value (NPV)	259857	NPV=PVB-PVC
Benefit to Cost Ratio (BCR)	2.60	BCR=PVB/PVC

Note : This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

Analysis of Monetised Costs and Benefits - Option 5B

Greenhouse Gases	0	*(14)*
Accidents	63833	*(17)*
Economic Efficiency: Consumer Users (Commuting)	96154	*(1a)*
Economic Efficiency: Consumer Users (Other)	52957	*(1b)*
Economic Efficiency: Business Users and Providers	142217	*(5)*
Wider Public Finances (Indirect Taxation Revenues)	-4417	*- (11) - sign changed from PA table, as PA table represents costs, not benefits*
Present Value of Benefits (see notes) (PVB)	350744	*(PVB) = (12) + (13) + (14) + (15) + (16) + (17) + (1a) + (1b) + (5) - (11)*
Broad Transport Budget	213756	*(10)*
Present Value of Costs (see notes) (PVC)	213756	*(PVC) = (10)*
OVERALL IMPACTS		
Net Present Value (NPV)	136988	NPV=PVB-PVC
Benefit to Cost Ratio (BCR)	1.64	BCR=PVB/PVC

Note : This table includes costs and benefits which are regularly or occasionally presented in monetised form in transport appraisals, together with some where monetisation is in prospect. There may also be other significant costs and benefits, some of which cannot be presented in monetised form. Where this is the case, the analysis presented above does NOT provide a good measure of value for money and should not be used as the sole basis for decisions.

Appendix C

COBALT RESULTS

APPENDIX C-1

COBALT RESULTS

Working on behalf of

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*************************************************************************
*                                                                       *
*        CCC      OOO     BBBB      AAA             L         TTTTT      *
*       C   C    O   O    B   B    A   A            L           T        *
*       C        O   O    B   B    A   A            L           T        *
*       C        O   O    BBBB     AAAAA    ----    L           T        *
*       C        O   O    B   B    A   A            L           T        *
*       C   C    O   O    B   B    A   A            L           T        *
*        CCC      OOO     BBBB     A   A            LLLLL       T        *
*                                                                       *
*************************************************************************
*                                                                       *
*                                                 Version 2013.02       *
*                                                                       *
*      Transport Appraisal and Strategic Modelling (TASM) Division,     *
*                                        Department for Transport,      *
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*                                              33 Horseferry Road,      *
*                                                         London,       *
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*                                                                       *
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Written by Roger Himlin

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[Section 1] Summary Statistics

[Section 1.1] Economic Summary

Total Without-Scheme Accident Costs =	3,062.1
Total With-Scheme Accident Costs =	2,991.0
Total Accident Benefits Saved by Scheme =	71.1

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 1.2] Accident Summary

Total Without-Scheme Accidents =	61.9
Total With-Scheme Accidents =	60.4
Total Accidents Saved by Scheme =	1.5

[Section 1.3] Casualty Summary

Total Without-Scheme Casualties (Fatal) =	0.6
(Serious) =	7.9
(Slight) =	75.7
Total With-Scheme Casualties (Fatal) =	0.6
(Serious) =	7.7
(Slight) =	73.9
Total Casualties Saved by Scheme (Fatal) =	0.0
(Serious) =	0.2
(Slight) =	1.8

[Section 2] Accident Statistics

[Section 2.1] Link Accident Statistics

	Without-Scheme				With-Scheme				Benefits	
	Number of Accidents			Total	Number of Accidents			Total		
Link Name	2023	2038	Total	Cost	2023	2038	Total	Cost	2023	2038	Total	Benefit
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0.0 0.0 0.0 0.0 0.0 0.0

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 2.2] Junction Accident Statistics

	----------- Without-Scheme ---------				*----------- With-Scheme -----------*				*------------ Benefits ------------*
	-- Number of Accidents -			Total*	*-- Number of Accidents -*			Total*	
Junction Name	*	2023	2038	Total*	Cost*	*	2023	2038	Total*	Cost*	*	2023	2038	Total*	Benefit*
Total		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 2.3] Combined Link and Junction Accident Statistics

	----------- Without-Scheme ---------				*----------- With-Scheme -----------*				*------------ Benefits ------------*
	-- Number of Accidents -			Total*	*-- Number of Accidents -*			Total*	
Link Name	*	2023	2038	Total*	Cost*	*	2023	2038	Total*	Cost*	*	2023	2038	Total*	Benefit*
100261272		0.0	0.0	0.1	6.6		0.0	0.0	0.2	11.6		0.0	0.0	-0.1	-5.0
101561276		0.0	0.0	0.2	10.0		0.0	0.0	0.3	15.6		0.0	0.0	-0.1	-5.6
12741278		0.0	0.0	0.5	23.4		0.0	0.0	0.6	28.3		0.0	0.0	-0.1	-5.0
100101278		0.0	0.0	0.8	36.8		0.0	0.0	0.9	43.5		0.0	0.0	-0.1	-6.7
76621280		0.0	0.0	0.2	9.8		0.0	0.0	0.3	15.2		0.0	0.0	-0.1	-5.4
12741282		0.0	0.0	0.4	18.1		0.0	0.0	0.6	25.7		0.0	0.0	-0.2	-7.6
13081294		0.0	0.0	0.5	22.5		0.0	0.0	0.6	27.2		0.0	0.0	-0.1	-4.7
12821294		0.0	0.0	0.1	7.0		0.0	0.0	0.3	11.7		0.0	0.0	-0.1	-4.7
100011300		0.0	0.0	0.3	14.8		0.0	0.0	0.4	20.7		0.0	0.0	-0.1	-5.9
12941308		0.0	0.0	0.2	8.8		0.0	0.0	0.3	14.0		0.0	0.0	-0.1	-5.2
13161310		0.0	0.0	0.2	10.7		0.0	0.0	0.2	12.5		0.0	0.0	0.0	-1.8
100081316		0.0	0.0	0.1	6.1		0.0	0.0	0.1	5.3		0.0	0.0	0.0	0.8

12721318	0.0	0.0	0.1	6.5	0.0	0.0	0.3	12.1	0.0	0.0	-0.1	-5.6	
60181344	0.0	0.0	0.4	20.1	0.0	0.0	0.3	15.6	0.0	0.0	0.1	4.5	
100241396	0.0	0.0	0.5	23.1	0.0	0.0	0.3	14.8	0.0	0.0	0.2	8.3	
14201412	0.0	0.0	1.9	87.1	0.0	0.0	1.8	82.2	0.0	0.0	0.1	4.9	
14401424	0.0	0.0	0.1	5.9	0.0	0.0	0.0	2.1	0.0	0.0	0.1	3.7	
17661450	0.0	0.0	0.2	7.6	0.0	0.0	0.1	2.9	0.0	0.0	0.1	4.7	
14541458	0.0	0.0	1.2	56.8	0.0	0.0	1.3	60.2	0.0	0.0	-0.1	-3.5	
15001486	0.0	0.0	1.2	55.8	0.0	0.0	1.3	60.7	0.0	0.0	-0.1	-4.9	
14881486	0.0	0.0	0.4	17.0	0.0	0.0	0.3	11.8	0.0	0.0	0.1	5.2	
100211488	0.0	0.0	0.4	19.2	0.0	0.0	0.3	13.3	0.0	0.0	0.1	5.9	
16181490	0.0	0.0	0.2	9.2	0.0	0.0	0.4	18.4	0.0	0.0	-0.2	-9.2	
101591500	0.0	0.0	0.1	8.3	0.0	0.0	0.2	9.0	0.0	0.0	0.0	-0.8	
14901522	0.0	0.0	0.2	11.6	0.0	0.0	0.4	19.6	0.0	0.0	-0.2	-8.0	
60151556	0.0	0.0	0.4	19.6	0.0	0.0	0.6	26.8	0.0	0.0	-0.2	-7.2	
15221604	0.0	0.0	0.2	11.6	0.0	0.0	0.4	19.6	0.0	0.0	-0.2	-8.0	
15561618	0.0	0.0	0.1	6.8	0.0	0.0	0.3	15.1	0.0	0.0	-0.2	-8.3	
18661696	0.0	0.0	0.2	11.6	0.0	0.0	0.1	6.8	0.0	0.0	0.1	4.7	
60521766	0.0	0.0	0.0	3.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	1.9	
76441848	0.0	0.0	0.2	12.4	0.0	0.0	0.1	10.2	0.0	0.0	0.0	2.2	
79361854	0.0	0.0	0.1	8.3	0.0	0.0	0.2	14.5	0.0	0.0	-0.1	-6.3	
79061866	0.0	0.0	0.2	11.6	0.0	0.0	0.1	6.8	0.0	0.0	0.1	4.7	
19621994	0.0	0.0	0.6	29.2	0.0	0.0	0.7	34.0	0.0	0.0	-0.1	-4.8	
76382058	0.0	0.0	0.2	17.3	0.0	0.0	0.3	19.4	0.0	0.0	0.0	-2.0	
20962066	0.0	0.0	0.1	7.7	0.0	0.0	0.2	8.3	0.0	0.0	0.0	-0.6	
19942070	0.0	0.0	0.2	10.3	0.0	0.0	0.2	11.5	0.0	0.0	0.0	-1.2	
90152076	0.0	0.0	0.1	5.7	0.0	0.0	0.1	6.4	0.0	0.0	0.0	-0.7	
76362086	0.0	0.0	1.1	52.1	0.0	0.0	1.2	56.6	0.0	0.0	-0.1	-4.5	

100562096	0.0	0.0	1.1	50.0	0.0	0.0	1.2	54.0	0.0	0.0	-0.1	-4.0	
20762096	0.0	0.0	0.1	7.2	0.0	0.0	0.1	7.9	0.0	0.0	0.0	-0.7	
21082098	0.0	0.0	0.4	18.8	0.0	0.0	0.7	35.0	0.0	0.0	-0.3	-16.2	
79362098	0.0	0.0	0.1	10.1	0.0	0.0	0.2	13.7	0.0	0.0	-0.1	-3.6	
21702102	0.0	0.0	0.2	11.6	0.0	0.0	0.1	6.8	0.0	0.0	0.1	4.7	
21302110	0.0	0.0	0.1	8.2	0.0	0.0	0.2	9.4	0.0	0.0	0.0	-1.2	
95052110	0.0	0.0	0.1	6.0	0.0	0.0	0.0	0.7	0.0	0.0	0.1	5.2	
20982112	0.0	0.0	0.4	20.2	0.0	0.0	0.6	27.3	0.0	0.0	-0.2	-7.1	
23082306	0.0	0.0	0.2	8.3	0.0	0.0	0.2	10.2	0.0	0.0	0.0	-1.8	
23122392	0.0	0.0	0.1	7.0	0.0	0.0	0.2	8.9	0.0	0.0	0.0	-1.9	
24362420	0.0	0.0	1.1	49.5	0.0	0.0	0.9	43.8	0.0	0.0	0.1	5.7	
24082420	0.0	0.0	0.3	18.8	0.0	0.0	0.2	14.7	0.0	0.0	0.1	4.1	
24782436	0.0	0.0	0.1	6.9	0.0	0.0	0.1	6.1	0.0	0.0	0.0	0.8	
24202436	0.0	0.0	1.0	47.0	0.0	0.0	0.8	39.2	0.0	0.0	0.2	7.8	
74862478	0.0	0.0	0.3	19.8	0.0	0.0	0.2	17.5	0.0	0.0	0.0	2.3	
24362478	0.0	0.0	0.1	7.2	0.0	0.0	0.1	6.2	0.0	0.0	0.0	1.0	
25122506	0.0	0.0	1.1	52.2	0.0	0.0	1.2	56.9	0.0	0.0	-0.1	-4.7	
25062508	0.0	0.0	0.5	22.8	0.0	0.0	0.6	26.8	0.0	0.0	-0.1	-4.0	
25182512	0.0	0.0	1.1	52.0	0.0	0.0	1.2	56.8	0.0	0.0	-0.1	-4.8	
25262518	0.0	0.0	0.2	8.7	0.0	0.0	0.2	9.4	0.0	0.0	0.0	-0.7	
25482526	0.0	0.0	0.2	8.7	0.0	0.0	0.2	9.4	0.0	0.0	0.0	-0.7	
25762546	0.0	0.0	1.1	51.3	0.0	0.0	1.0	46.9	0.0	0.0	0.1	4.3	
76782546	0.0	0.0	0.3	24.1	0.0	0.0	0.3	21.9	0.0	0.0	0.0	2.1	
25842548	0.0	0.0	0.2	8.7	0.0	0.0	0.2	9.4	0.0	0.0	0.0	-0.7	
27082584	0.0	0.0	0.2	8.7	0.0	0.0	0.2	9.4	0.0	0.0	0.0	-0.7	
25962594	0.0	0.0	1.2	57.4	0.0	0.0	1.1	51.0	0.0	0.0	0.1	6.5	
25982596	0.0	0.0	1.2	54.7	0.0	0.0	1.1	50.6	0.0	0.0	0.1	4.1	

75702596	0.0	0.0	0.2	17.6	0.0	0.0	0.2	15.0	0.0	0.0	0.0	2.6	
25922598	0.0	0.0	1.1	51.4	0.0	0.0	1.0	47.3	0.0	0.0	0.1	4.2	
26162610	0.0	0.0	0.9	43.8	0.0	0.0	0.8	37.4	0.0	0.0	0.1	6.4	
26342616	0.0	0.0	0.2	17.5	0.0	0.0	0.2	14.8	0.0	0.0	0.0	2.7	
75762634	0.0	0.0	0.9	43.7	0.0	0.0	0.8	36.8	0.0	0.0	0.1	6.9	
90052638	0.0	0.0	1.0	45.3	0.0	0.0	0.9	40.9	0.0	0.0	0.1	4.4	
26382640	0.0	0.0	0.3	20.0	0.0	0.0	0.3	18.2	0.0	0.0	0.0	1.8	
26902676	0.0	0.0	0.9	43.7	0.0	0.0	0.8	36.8	0.0	0.0	0.1	6.9	
60362690	0.0	0.0	0.9	43.7	0.0	0.0	0.8	36.8	0.0	0.0	0.1	6.9	
27082712	0.0	0.0	1.1	49.9	0.0	0.0	0.9	43.5	0.0	0.0	0.1	6.4	
27122716	0.0	0.0	1.9	89.0	0.0	0.0	1.8	82.3	0.0	0.0	0.1	6.7	
73462740	0.0	0.0	1.1	50.6	0.0	0.0	0.9	41.7	0.0	0.0	0.2	8.9	
27402748	0.0	0.0	0.8	39.7	0.0	0.0	0.7	34.4	0.0	0.0	0.1	5.2	
75782750	0.0	0.0	0.2	17.5	0.0	0.0	0.2	14.8	0.0	0.0	0.0	2.7	
27482754	0.0	0.0	0.9	40.0	0.0	0.0	0.7	34.7	0.0	0.0	0.1	5.3	
27642762	0.0	0.0	1.0	47.7	0.0	0.0	0.8	39.1	0.0	0.0	0.2	8.6	
27542764	0.0	0.0	0.9	40.0	0.0	0.0	0.7	34.7	0.0	0.0	0.1	5.3	
27622766	0.0	0.0	1.0	46.8	0.0	0.0	0.9	39.9	0.0	0.0	0.1	6.9	
22206015	0.0	0.0	0.1	7.9	0.0	0.0	0.2	10.8	0.0	0.0	0.0	-2.9	
76486018	0.0	0.0	0.4	20.1	0.0	0.0	0.3	15.6	0.0	0.0	0.1	4.5	
27506036	0.0	0.0	0.2	17.5	0.0	0.0	0.2	14.8	0.0	0.0	0.0	2.7	
23106047	0.0	0.0	0.1	7.7	0.0	0.0	0.2	10.2	0.0	0.0	0.0	-2.5	
60506049	0.0	0.0	0.4	16.7	0.0	0.0	0.1	2.8	0.0	0.0	0.3	13.9	
60516050	0.0	0.0	0.4	18.0	0.0	0.0	0.1	3.5	0.0	0.0	0.3	14.5	
75746051	0.0	0.0	0.4	18.0	0.0	0.0	0.1	3.5	0.0	0.0	0.3	14.5	
60496051	0.0	0.0	0.5	24.1	0.0	0.0	0.1	5.8	0.0	0.0	0.4	18.3	
18486052	0.0	0.0	0.2	12.4	0.0	0.0	0.1	10.2	0.0	0.0	0.0	2.2	

	27167346		0.0	0.0	1.1	50.6	0.0	0.0
0.9	41.7	0.0	0.0	0.2	8.9				
	16047478		0.0	0.0	0.2	11.6	0.0	0.0
0.4	19.6	0.0	0.0	-0.2	-8.0				
	74787479		0.0	0.0	0.2	10.4	0.0	0.0
0.4	19.0	0.0	0.0	-0.2	-8.6				
	95397486		0.0	0.0	0.3	20.0	0.0	0.0
0.2	17.7	0.0	0.0	0.0	2.3				
	24787486		0.0	0.0	0.3	20.8	0.0	0.0
0.3	17.8	0.0	0.0	0.0	3.0				
	26107570		0.0	0.0	0.2	17.6	0.0	0.0
0.2	15.0	0.0	0.0	0.0	2.6				
	24167572		0.0	0.0	0.1	4.4	0.0	0.0
0.1	6.5	0.0	0.0	0.0	-2.2				
	60517574		0.0	0.0	0.5	24.1	0.0	0.0
0.1	5.8	0.0	0.0	0.4	18.3				
	26767576		0.0	0.0	0.9	43.7	0.0	0.0
0.8	36.8	0.0	0.0	0.1	6.9				
	27667578		0.0	0.0	0.9	43.7	0.0	0.0
0.8	36.8	0.0	0.0	0.1	6.9				
	100567636		0.0	0.0	1.3	58.6	0.0	0.0
1.4	63.7	0.0	0.0	-0.1	-5.1				
	24067638		0.0	0.0	0.2	16.8	0.0	0.0
0.3	18.8	0.0	0.0	0.0	-2.0				
	19567644		0.0	0.0	0.2	14.5	0.0	0.0
0.2	12.3	0.0	0.0	0.0	2.1				
	13007662		0.0	0.0	0.2	9.8	0.0	0.0
0.3	15.2	0.0	0.0	-0.1	-5.4				
	22807678		0.0	0.0	0.3	24.1	0.0	0.0
0.3	21.9	0.0	0.0	0.0	2.1				
	25467678		0.0	0.0	0.3	22.4	0.0	0.0
0.3	20.3	0.0	0.0	0.0	2.2				
	21027906		0.0	0.0	0.2	11.6	0.0	0.0
0.1	6.8	0.0	0.0	0.1	4.7				
	16967908		0.0	0.0	0.3	12.4	0.0	0.0
0.2	7.5	0.0	0.0	0.1	4.9				
	79087909		0.0	0.0	0.3	15.9	0.0	0.0
0.2	8.8	0.0	0.0	0.2	7.0				
	20987936		0.0	0.0	0.1	7.5	0.0	0.0
0.2	14.0	0.0	0.0	-0.1	-6.5				
	18547936		0.0	0.0	0.1	10.1	0.0	0.0
0.2	13.5	0.0	0.0	0.0	-3.3				
	22489009		0.0	0.0	0.5	25.4	0.0	0.0
0.5	21.8	0.0	0.0	0.1	3.6				
	20129015		0.0	0.0	0.2	16.4	0.0	0.0
0.3	18.4	0.0	0.0	0.0	-2.0				
	23929500		0.0	0.0	0.1	7.6	0.0	0.0
0.2	8.4	0.0	0.0	0.0	-0.8				
	20709503		0.0	0.0	0.2	10.1	0.0	0.0
0.2	11.5	0.0	0.0	0.0	-1.5				
	22249505		0.0	0.0	0.1	5.6	0.0	0.0
0.0	0.5	0.0	0.0	0.1	5.0				
	23169527		0.0	0.0	1.1	52.1	0.0	0.0
1.8	83.0	0.0	0.0	-0.7	-30.9				

25929539		0.0	0.0	0.1	6.9	0.0	0.0	0.1	6.1	0.0	0.0	0.0	0.8
74869539		0.0	0.0	0.3	21.0	0.0	0.0	0.3	18.0	0.0	0.0	0.0	3.0
127610001		0.0	0.0	0.3	14.8	0.0	0.0	0.4	20.7	0.0	0.0	-0.1	-5.9
131610008		0.0	0.0	0.1	6.2	0.0	0.0	0.1	5.5	0.0	0.0	0.0	0.7
126610010		0.0	0.0	0.7	31.5	0.0	0.0	0.8	36.5	0.0	0.0	-0.1	-5.0
130810018		0.0	0.0	0.2	8.5	0.0	0.0	0.3	14.1	0.0	0.0	-0.1	-5.6
141010021		0.0	0.0	0.3	14.5	0.0	0.0	0.2	7.6	0.0	0.0	0.1	6.9
1015410024		0.0	0.0	0.6	28.3	0.0	0.0	0.4	19.0	0.0	0.0	0.2	9.3
128010026		0.0	0.0	0.2	10.6	0.0	0.0	0.4	16.8	0.0	0.0	-0.1	-6.2
131810032		0.0	0.0	0.1	5.0	0.0	0.0	0.2	10.1	0.0	0.0	-0.1	-5.2
209610056		0.0	0.0	1.3	58.5	0.0	0.0	1.4	63.8	0.0	0.0	-0.1	-5.3
135810154		0.0	0.0	0.5	25.0	0.0	0.0	0.4	16.5	0.0	0.0	0.2	8.5
1001810156		0.0	0.0	0.2	9.7	0.0	0.0	0.3	16.0	0.0	0.0	-0.1	-6.3
145810159		0.0	0.0	0.1	8.3	0.0	0.0	0.2	9.0	0.0	0.0	0.0	-0.8
Total		0.1	1.0	61.9	3,062.1	0.1	1.0	60.4	2,991.0	0.0	0.0	1.5	71.1

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 3] Accident Rates

[Section 3.1] Link Accident Rates

	----- Accident Rate ----	
Link Name	* 2023	2038 *

Accident rates are in accidents per million vehicle kilometres.

[Section 3.2] Junction Accident Rates

	---- Coefficient 'a' ---	
Junction Name	* 2023	2038 *

[Section 3.3] Combined Link and Junction Accident Rates

Link Name	Accident Rate 2023	Accident Rate 2038
100261272	0.395754	0.328904
101561276	0.539109	0.445665
12741278	0.539109	0.445665
100101278	0.539109	0.445665
76621280	0.539109	0.445665
12741282	0.539109	0.445665
13081294	0.539109	0.445665
12821294	0.539109	0.445665
100011300	0.539109	0.445665
12941308	0.539109	0.445665
13161310	0.143220	0.114668
100081316	0.063991	0.051784
12721318	0.539109	0.445665
60181344	0.539109	0.445665
100241396	0.539109	0.445665
14201412	0.539109	0.445665
14401424	0.395754	0.328904
17661450	0.539109	0.445665
14541458	0.395754	0.328904
15001486	0.395754	0.328904
14881486	0.539109	0.445665
100211488	0.539109	0.445665
16181490	0.539109	0.445665
101591500	0.063991	0.051784
14901522	0.539109	0.445665
60151556	0.539109	0.445665
15221604	0.539109	0.445665
15561618	0.539109	0.445665
18661696	0.539109	0.445665
60521766	0.143220	0.114668
76441848	0.143220	0.114668
79361854	0.143220	0.114668
79061866	0.539109	0.445665
19621994	0.539109	0.445665
76382058	0.143220	0.114668
20962066	0.063991	0.051784
19942070	0.063991	0.051784
90152076	0.063991	0.051784
76362086	0.539109	0.445665
100562096	0.395754	0.328904
20762096	0.063991	0.051784
21082098	0.539109	0.445665
79362098	0.143220	0.114668
21702102	0.539109	0.445665
21302110	0.063991	0.051784
95052110	0.539109	0.445665
20982112	0.395754	0.328904
23082306	0.063991	0.051784
23122392	0.063991	0.051784
24362420	0.539109	0.445665

24082420	0.143220	0.114668
24782436	0.063991	0.051784
24202436	0.539109	0.445665
74862478	0.143220	0.114668
24362478	0.063991	0.051784
25122506	0.395754	0.328904
25062508	0.395754	0.328904
25182512	0.395754	0.328904
25262518	0.063991	0.051784
25482526	0.063991	0.051784
25762546	0.539109	0.445665
76782546	0.143220	0.114668
25842548	0.063991	0.051784
27082584	0.063991	0.051784
25962594	0.395754	0.328904
25982596	0.395754	0.328904
75702596	0.143220	0.114668
25922598	0.395754	0.328904
26162610	0.539109	0.445665
26342616	0.143220	0.114668
75762634	0.539109	0.445665
90052638	0.539109	0.445665
26382640	0.143220	0.114668
26902676	0.539109	0.445665
60362690	0.539109	0.445665
27082712	0.395754	0.328904
27122716	0.395754	0.328904
73462740	0.539109	0.445665
27402748	0.539109	0.445665
75782750	0.143220	0.114668
27482754	0.539109	0.445665
27642762	0.539109	0.445665
27542764	0.539109	0.445665
27622766	0.539109	0.445665
22206015	0.143220	0.114668
76486018	0.539109	0.445665
27506036	0.143220	0.114668
23106047	0.063991	0.051784
60506049	0.395754	0.328904
60516050	0.539109	0.445665
75746051	0.539109	0.445665
60496051	0.539109	0.445665
18486052	0.143220	0.114668
27167346	0.539109	0.445665
16047478	0.539109	0.445665
74787479	0.539109	0.445665
95397486	0.143220	0.114668
24787486	0.143220	0.114668
26107570	0.143220	0.114668
24167572	0.143220	0.114668
60517574	0.539109	0.445665
26767576	0.539109	0.445665
27667578	0.539109	0.445665
100567636	0.539109	0.445665

24067638	0.143220	0.114668
19567644	0.143220	0.114668
13007662	0.539109	0.445665
22807678	0.143220	0.114668
25467678	0.143220	0.114668
21027906	0.539109	0.445665
16967908	0.539109	0.445665
79087909	0.539109	0.445665
20987936	0.143220	0.114668
18547936	0.143220	0.114668
22489009	0.395754	0.328904
20129015	0.143220	0.114668
23929500	0.063991	0.051784
20709503	0.063991	0.051784
22249505	0.539109	0.445665
23169527	0.539109	0.445665
25929539	0.063991	0.051784
74869539	0.143220	0.114668
127610001	0.539109	0.445665
131610008	0.063991	0.051784
126610010	0.539109	0.445665
130810018	0.539109	0.445665
141010021	0.539109	0.445665
1015410024	0.539109	0.445665
128010026	0.539109	0.445665
131810032	0.539109	0.445665
209610056	0.539109	0.445665
135810154	0.539109	0.445665
1001810156	0.539109	0.445665
145810159	0.063991	0.051784

Accident rates are in accidents per million vehicle kilometres.

[Section 4] Input Data - Scheme File

Scheme Name
Arundel Option 0A Analysis

Years Subsection	
Current Year	2017
Base Year	2015
Without-Scheme	
Year 1	2023
Year 2	2041
Year 3	0
Year 4	0
Year 5	0
With-Scheme	
Year 1	2023
Year 2	2041
Year 3	0

Year 4 0
Year 5 0

Scheme Opening Year 2023

Link Input Section

Link Classification Subsection

Link Name	Road Type	Length (km)	Speed Limit (mph)	Error/Warning Summary (!=Error, #=Warning)

Link Flow Subsection

Link Name	Base Year Flows	Without-Scheme Flows Year 1	Year 2	Year 3	Year 4	Year 5	With-Scheme Flows Year 1	Year 2	Year 3	Year 4	Year 5

Link Local Accident Rate Subsection

Link Name	Observed Accidents	First Observed Accident Year	Local Severity Split Ratio	Year

Junction Input Section

Junction Classification Subsection

Junction Name	Junction Geometry	Highest Carriageway	Highest Standard	Speed Limit (mph)	Error/Warning Summary (!=Error, #=Warning)

Junction Flow Subsection

Base Year Flows

Junction Name	Arm 1 (Major)	Arm 2 (Minor)	Arm 3 (Major)	Arm 4 (Minor)	Arm 5 (Major)	Arm 6 (Minor)

Without-Scheme Year Flows

Junction Name	Year	Arm 1 (Major)	Arm 2 (Minor)	Arm 3 (Major)	Arm 4 (Minor)	Arm 5 (Major)	Arm 6 (Minor)

With-Scheme Year Flows

Junction Name	Year	Arm 1 (Major)	Arm 2 (Minor)	Arm 3 (Major)	Arm 4 (Minor)	Arm 5 (Major)

Junction Local Accident Rate Subsection

Junction Name	Observed Accidents	First Observed Accident Year	Local Severity Split Ratio	Year

Link and Junction Combined Input Section

Combined Classification Subsection

Link Name	Road Type	Length (km)	Speed Limit (mph)	Error/Warning Summary (!=Error, #=Warning)
100261272	12	0.01	30	
101561276	8	0.01	30	
12741278	8	0.01	30	

100101278	8	0.01	30
76621280	8	0.01	30
12741282	8	0.01	30
13081294	8	0.01	30
12821294	8	0.01	30
100011300	8	0.01	30
12941308	8	0.01	30
13161310	8	0.01	60
100081316	12	0.01	60
12721318	8	0.01	30
60181344	8	0.01	30
100241396	8	0.01	30
14201412	8	0.01	30
14401424	12	0.01	30
17661450	8	0.01	40
14541458	12	0.01	30
15001486	12	0.01	30
14881486	8	0.01	30
100211488	8	0.01	30
16181490	8	0.01	40
101591500	12	0.01	60
14901522	8	0.01	40
60151556	8	0.01	30
15221604	8	0.01	40
15561618	8	0.01	40
18661696	8	0.01	30
60521766	8	0.01	50
76441848	8	0.01	60
79361854	8	0.01	50
79061866	8	0.01	30
19621994	8	0.01	40
76382058	8	0.01	60
20962066	12	0.01	60
19942070	12	0.01	60
90152076	12	0.01	60
76362086	8	0.01	40
100562096	12	0.01	40
20762096	12	0.01	60
21082098	8	0.01	30
79362098	8	0.01	50
21702102	8	0.01	30
21302110	12	0.01	60
95052110	8	0.01	30
20982112	12	0.01	30
23082306	12	0.01	60
23122392	12	0.01	60
24362420	8	0.01	40
24082420	8	0.01	60
24782436	12	0.01	50
24202436	8	0.01	40
74862478	8	0.01	50
24362478	12	0.01	50
25122506	12	0.01	30
25062508	12	0.01	30

25182512	12	0.01	30
25262518	12	0.01	60
25482526	12	0.01	60
25762546	8	0.01	40
76782546	8	0.01	50
25842548	12	0.01	60
27082584	12	0.01	60
25962594	12	0.01	30
25982596	12	0.01	30
75702596	8	0.01	50
25922598	12	0.01	30
26162610	8	0.01	30
26342616	8	0.01	60
75762634	8	0.01	40
90052638	8	0.01	30
26382640	8	0.01	50
26902676	8	0.01	40
60362690	8	0.01	40
27082712	12	0.01	30
27122716	12	0.01	30
73462740	8	0.01	40
27402748	8	0.01	40
75782750	8	0.01	60
27482754	8	0.01	30
27642762	8	0.01	30
27542764	8	0.01	30
27622766	8	0.01	30
22206015	8	0.01	50
76486018	8	0.01	30
27506036	8	0.01	60
23106047	12	0.01	60
60506049	12	0.01	30
60516050	8	0.01	30
75746051	8	0.01	30
60496051	8	0.01	30
18486052	8	0.01	50
27167346	8	0.01	30
16047478	8	0.01	30
74787479	8	0.01	30
95397486	8	0.01	50
24787486	8	0.01	50
26107570	8	0.01	50
24167572	8	0.01	60
60517574	8	0.01	30
26767576	8	0.01	40
27667578	8	0.01	30
100567636	8	0.01	40
24067638	8	0.01	60
19567644	8	0.01	60
13007662	8	0.01	30
22807678	8	0.01	50
25467678	8	0.01	50
21027906	8	0.01	30
16967908	8	0.01	30

79087909	8	0.01	30
20987936	8	0.01	50
18547936	8	0.01	50
22489009	12	0.01	40
20129015	8	0.01	60
23929500	12	0.01	60
20709503	12	0.01	60
22249505	8	0.01	30
23169527	8	0.01	40
25929539	12	0.01	50
74869539	8	0.01	50
127610001	8	0.01	30
131610008	12	0.01	60
126610010	8	0.01	30
130810018	8	0.01	30
141010021	8	0.01	30
1015410024	8	0.01	30
128010026	8	0.01	30
131810032	8	0.01	30
209610056	8	0.01	40
135810154	8	0.01	30
1001810156	8	0.01	30
145810159	12	0.01	60

Combined Flow Subsection

Link Name	Base Year Flows	Without-Scheme Flows Year 1	Year 2	Year 3	Year 4	Year 5	With-Scheme Flows Year 1	Year 2	Year 3	Year 4	Year 5
100261272	162	150	2,504	0	0	0	265	4,405	0	0	0
101561276	130	155	3,044	0	0	0	268	4,739	0	0	0
12741278	130	475	7,989	0	0	0	645	9,668	0	0	0
100101278	469	773	11,152	0	0	0	853	13,199	0	0	0
76621280	216	198	3,362	0	0	0	317	5,210	0	0	0
12741282	88	332	6,198	0	0	0	490	8,788	0	0	0
13081294	169	569	7,675	0	0	0	656	9,282	0	0	0
12821294	124	157	2,388	0	0	0	272	3,998	0	0	0
100011300	264	253	4,509	0	0	0	359	6,292	0	0	0
12941308	189	192	3,019	0	0	0	309	4,787	0	0	0
13161310	394	645	9,086	0	0	0	682	10,626	0	0	0
100081316	701	876	13,210	0	0	0	669	11,491	0	0	0
12721318	146	131	2,236	0	0	0	246				

```
   4,148   0       0       0
    60181344        423             490     6,850   0       0       0       361
   5,336   0       0       0
    100241396       533             604     6,959   0       0       0       478
   4,434   0       0       0
    14201412        1,751           2,019   29,717  0       0       0
1,664   28,100  0       0       0
    14401424        88              197     2,492   0       0       0       58
   911     0       0       0
    17661450        89              203     2,586   0       0       0       61
   983     0       0       0
    14541458        1,213           1,671   24,188  0       0       0
1,431   25,768  0       0       0
    15001486        1,385           1,851   23,733  0       0       0
1,701   25,889  0       0       0
    14881486        394             515     5,781   0       0       0       410
   3,996   0       0       0
    100211488       394             515     5,781   0       0       0       410
   3,996   0       0       0
    16181490        56              181     3,138   0       0       0       350
   6,286   0       0       0
    101591500       816             1,314   18,000  0       0       0
1,109   19,777  0       0       0
    14901522        72              213     3,968   0       0       0       391
   6,702   0       0       0
    60151556        252             624     6,640   0       0       0       740
   9,119   0       0       0
    15221604        72              213     3,968   0       0       0       391
   6,702   0       0       0
    15561618        100             180     2,322   0       0       0       261
   5,180   0       0       0
    18661696        0               417     3,901   0       0       0       321
   2,288   0       0       0
    60521766        89              203     2,586   0       0       0       61
   983     0       0       0
    76441848        721             822     10,513  0       0       0       493
   8,712   0       0       0
    79361854        576             194     7,120   0       0       0       932
   12,342  0       0       0
    79061866        0               417     3,901   0       0       0       321
   2,288   0       0       0
    19621994        594             529     10,003  0       0       0       706
   11,610  0       0       0
    76382058        1,044           862     14,774  0       0       0       896
   16,533  0       0       0
    20962066        1,046           1,348   18,912  0       0       0
1,463   20,423  0       0       0
    19942070        1,438           1,582   25,187  0       0       0
1,923   28,198  0       0       0
    90152076        765             882     13,945  0       0       0       994
   15,670  0       0       0
    76362086        1,009           1,120   17,795  0       0       0
1,225   19,346  0       0       0
    100562096       1,046           1,348   18,912  0       0       0
```

```
1,463   20,423  0       0       0
    20762096        988             1,116   17,764  0       0       0
1,227   19,363  0       0       0
    21082098        588             153     6,488   0       0       0       942
   11,906  0       0       0
    79362098        306             630     8,603   0       0       0
1,073   11,576  0       0       0
    21702102        0               417     3,901   0       0       0       321
   2,288   0       0       0
    21302110        1,227           1,341   20,156  0       0       0
1,537   23,156  0       0       0
    95052110        5               17      2,066   0       0       0       6
   258     0       0       0
    20982112        306             630     8,603   0       0       0
1,073   11,576  0       0       0
    23082306        1,298           1,416   20,407  0       0       0
1,509   24,996  0       0       0
    23122392        1,006           1,122   17,099  0       0       0
1,282   21,870  0       0       0
    24362420        545             1,160   16,886  0       0       0
1,249   14,883  0       0       0
    24082420        477             862     16,035  0       0       0       823
   12,497  0       0       0
    24782436        536             1,155   16,851  0       0       0
1,243   14,841  0       0       0
    24202436        472             860     16,102  0       0       0       820
   13,388  0       0       0
    74862478        536             1,155   16,851  0       0       0
1,243   14,846  0       0       0
    24362478        472             860     17,818  0       0       0       820
   15,245  0       0       0
    25122506        1,690           1,465   22,260  0       0       0
1,476   24,306  0       0       0
    25062508        699             543     9,761   0       0       0       566
   11,476  0       0       0
    25182512        1,688           1,461   22,166  0       0       0
1,472   24,247  0       0       0
    25262518        1,655           1,429   21,352  0       0       0
1,438   23,076  0       0       0
    25482526        1,655           1,429   21,352  0       0       0
1,438   23,102  0       0       0
    25762546        735             795     17,606  0       0       0       792
   16,094  0       0       0
    76782546        996             1,199   20,523  0       0       0
1,097   18,711  0       0       0
    25842548        1,650           1,423   21,312  0       0       0
1,432   23,068  0       0       0
    27082584        1,650           1,423   21,312  0       0       0
1,432   23,068  0       0       0
    25962594        1,064           1,698   24,475  0       0       0
1,748   21,643  0       0       0
    25982596        918             1,348   23,387  0       0       0
1,331   21,619  0       0       0
    75702596        533             1,074   14,919  0       0       0
```

```
1,080   12,704  0       0       0
    25922598        823             1,164   22,010  0       0       0
1,161   20,205  0       0       0
    26162610        533             1,074   14,921  0       0       0
1,080   12,704  0       0       0
    26342616        560             1,130   14,870  0       0       0
1,130   12,484  0       0       0
    75762634        560             1,130   14,870  0       0       0
1,130   12,484  0       0       0
    90052638        577             864     15,519  0       0       0       795
   14,000  0       0       0
    26382640        661             956     17,083  0       0       0       879
   15,548  0       0       0
    26902676        560             1,130   14,870  0       0       0
1,130   12,484  0       0       0
    60362690        560             1,130   14,870  0       0       0
1,130   12,484  0       0       0
    27082712        784             1,468   21,254  0       0       0
1,383   18,501  0       0       0
    27122716        1,968           2,405   37,982  0       0       0
2,372   35,101  0       0       0
    73462740        606             1,319   17,219  0       0       0
1,215   14,155  0       0       0
    27402748        595             1,065   13,488  0       0       0
1,063   11,663  0       0       0
    75782750        560             1,130   14,870  0       0       0
1,130   12,484  0       0       0
    27482754        536             1,104   13,605  0       0       0
1,100   11,765  0       0       0
    27642762        560             1,190   16,235  0       0       0
1,208   13,241  0       0       0
    27542764        536             1,104   13,605  0       0       0
1,100   11,765  0       0       0
    27622766        560             1,272   15,903  0       0       0
1,208   13,517  0       0       0
    22206015        252             624     6,639   0       0       0       740
   9,119   0       0       0
    76486018        423             490     6,850   0       0       0       361
   5,336   0       0       0
    27506036        560             1,130   14,870  0       0       0
1,130   12,484  0       0       0
    23106047        1,202           1,257   18,765  0       0       0
1,411   24,987  0       0       0
    60506049        186             333     7,162   0       0       0       44
   1,198   0       0       0
    60516050        192             683     6,046   0       0       0       57
   1,197   0       0       0
    75746051        192             683     6,046   0       0       0       57
   1,197   0       0       0
    60496051        35              371     8,271   0       0       0       52
   1,998   0       0       0
    18486052        721             822     10,513  0       0       0       493
   8,712   0       0       0
    27167346        606             1,319   17,219  0       0       0
```

1,215 14,155 0 0 0
16047478 72 213 3,968 0 0 0 391
6,702 0 0 0
74787479 60 213 3,544 0 0 0 391
6,482 0 0 0
95397486 545 1,163 16,981 0 0 0
1,252 14,981 0 0 0
24787486 472 860 17,818 0 0 0 820
15,245 0 0 0
26107570 533 1,074 14,919 0 0 0
1,080 12,704 0 0 0
24167572 351 316 3,685 0 0 0 341
5,547 0 0 0
60517574 35 371 8,271 0 0 0 52
1,998 0 0 0
26767576 560 1,130 14,870 0 0 0
1,130 12,484 0 0 0
27667578 560 1,130 14,870 0 0 0
1,130 12,484 0 0 0
100567636 1,009 1,120 17,795 0 0 0
1,225 19,346 0 0 0
24067638 1,004 824 14,331 0 0 0 858
16,089 0 0 0
19567644 733 1,014 12,244 0 0 0 694
10,510 0 0 0
13007662 216 198 3,362 0 0 0 317
5,210 0 0 0
22807678 996 1,199 20,523 0 0 0
1,097 18,711 0 0 0
25467678 942 985 19,173 0 0 0 955
17,315 0 0 0
21027906 0 417 3,901 0 0 0 321
2,288 0 0 0
16967908 12 417 4,184 0 0 0 321
2,508 0 0 0
79087909 16 620 5,336 0 0 0 537
2,922 0 0 0
20987936 588 153 6,488 0 0 0 942
11,906 0 0 0
18547936 270 639 8,604 0 0 0
1,031 11,377 0 0 0
22489009 433 582 10,863 0 0 0 486
9,335 0 0 0
20129015 765 882 13,945 0 0 0 994
15,670 0 0 0
23929500 1,281 1,333 18,562 0 0 0
1,469 20,454 0 0 0
20709503 1,493 1,604 24,741 0 0 0
1,981 28,284 0 0 0
22249505 26 22 1,934 0 0 0 17
180 0 0 0
23169527 1,263 1,174 17,787 0 0 0
1,764 28,349 0 0 0
25929539 545 1,163 16,981 0 0 0

```
1,252   14,981  0       0       0
    74869539        472             868     17,950  0       0       0       828
   15,378  0       0       0
    127610001       264             253     4,509   0       0       0       359
   6,292   0       0       0
    131610008       794             899     13,467  0       0       0       866
   11,939  0       0       0
    126610010       418             668     9,558   0       0       0       706
   11,085  0       0       0
    130810018       156             181     2,575   0       0       0       297
   4,285   0       0       0
    141010021       295             403     4,352   0       0       0       273
   2,259   0       0       0
    1015410024      557             620     7,690   0       0       0       487
   5,138   0       0       0
    128010026       186             173     3,222   0       0       0       288
   5,108   0       0       0
    131810032       167             105     1,500   0       0       0       247
   3,066   0       0       0
    209610056       988             1,116   17,764  0       0       0
1,227   19,363  0       0       0
    135810154       530             594     7,551   0       0       0       456
   4,970   0       0       0
    1001810156      143             168     2,660   0       0       0       282
   4,368   0       0       0
    145810159       816             1,314   18,000  0       0       0
1,109   19,776  0       0       0
```

Combined Local Accident Rate Subsection

Link Name	Observed Accidents	First Observed Accident Year	Local Severity Ratio	Split Year

[Section 5] Input Data - Parameter File

COBALT Parameter File
Version 2,016.10

Cost Base Year
2010

Appraisal Period
60

Discount Rate

Years from Current Year	Discount Rate (%)
30	3.50
75	3.00
125	2.50

Cost per Casualty

Severity	Cost
Fatal	1,635,937

Serious	183,834
Slight	14,172

Cost per Accident

Severity	Insurance Administration	Damage to Property Urban	Rural	Motorway
Fatal	300	7,822	13,267	16,876
Serious	187	4,192	6,048	14,400
Slight	113	2,473	4,009	7,285
Damage	54	2,473	2,644	2,541

	Police Cost Urban	Rural	Motorway
Fatal	16,951	17,407	17,610
Serious	1,872	2,337	2,468
Slight	484	664	554
Damage	484	20	17

Compound Annual Rates of Growth of Accident Values

Range of Years	Rate of Growth (%p.a.)
2010-2011	1.13
2011-2012	0.51
2012-2013	1.52
2013-2014	2.16
2014-2015	1.66
2015-2016	1.69
2016-2017	1.80
2017-2018	1.73
2018-2019	1.64
2019-2020	1.66
2020-2021	1.77
2021-2022	1.78
2022-2023	1.80
2023-2024	1.91
2024-2025	1.93
2025-2026	1.94
2026-2027	1.96
2027-2028	1.98
2028-2029	1.99
2029-2030	2.01
2030-2031	2.02
2031-2032	2.04
2032-2033	2.05
2033-2034	2.16
2034-2035	2.07
2035-2036	2.08
2036-2040	2.09
2040-2045	2.11
2045-2046	2.24
2046-2050	2.14
2050-2055	2.07
2055-2057	2.09
2057-2059	2.19
2059-2060	2.29
2060-2063	2.30

2063-2065	2.20
2065-2070	2.18
2070-2085	2.17
2085-2110	2.18

Number of Damage Only Accidents per PIA

	Urban	Rural	Motorway
Damage	17.7	7.8	7.6

Link Only Accident Proportions

Base Year

2009

Road Type	Speed Limit (mph)	Accident Proportions Fatal	Serious	Slight
1	50	0.019	0.104	0.877
1	60	0.019	0.104	0.877
1	70	0.019	0.104	0.877
1	80	0.019	0.104	0.877
2	50	0.019	0.104	0.877
2	60	0.019	0.104	0.877
2	70	0.019	0.104	0.877
2	80	0.019	0.104	0.877
3	50	0.019	0.104	0.877
3	60	0.019	0.104	0.877
3	70	0.019	0.104	0.877
3	80	0.019	0.104	0.877
4	30	0.014	0.145	0.841
4	40	0.014	0.145	0.841
4	50	0.046	0.206	0.748
4	60	0.046	0.206	0.748
4	70	0.046	0.206	0.748
4	80	0.046	0.206	0.748
5	30	0.014	0.145	0.841
5	40	0.014	0.145	0.841
5	50	0.046	0.206	0.748
5	60	0.046	0.206	0.748
5	70	0.046	0.206	0.748
5	80	0.046	0.206	0.748
6	30	0.014	0.145	0.841
6	40	0.014	0.145	0.841
6	50	0.046	0.206	0.748
6	60	0.046	0.206	0.748
6	70	0.046	0.206	0.748
6	80	0.046	0.206	0.748
7	30	0.014	0.145	0.841
7	40	0.014	0.145	0.841
7	50	0.046	0.206	0.748
7	60	0.046	0.206	0.748
7	70	0.046	0.206	0.748
7	80	0.046	0.206	0.748
8	30	0.014	0.145	0.841
8	40	0.014	0.145	0.841
8	50	0.046	0.206	0.748
8	60	0.046	0.206	0.748

8	70	0.046	0.206	0.748
8	80	0.046	0.206	0.748
9	30	0.010	0.145	0.846
9	40	0.010	0.145	0.846
9	50	0.026	0.193	0.780
9	60	0.026	0.193	0.780
9	70	0.026	0.193	0.780
9	80	0.026	0.193	0.780
10	30	0.017	0.135	0.849
10	40	0.017	0.135	0.849
10	50	0.028	0.135	0.837
10	60	0.028	0.135	0.837
10	70	0.028	0.135	0.837
10	80	0.028	0.135	0.837
11	30	0.017	0.135	0.849
11	40	0.017	0.135	0.849
11	50	0.028	0.135	0.837
11	60	0.028	0.135	0.837
11	70	0.028	0.135	0.837
11	80	0.028	0.135	0.837
12	30	0.017	0.135	0.849
12	40	0.017	0.135	0.849
12	50	0.028	0.135	0.837
12	60	0.028	0.135	0.837
12	70	0.028	0.135	0.837
12	80	0.028	0.135	0.837
13	30	0.017	0.135	0.849
13	40	0.017	0.135	0.849
13	50	0.028	0.135	0.837
13	60	0.028	0.135	0.837
13	70	0.028	0.135	0.837
13	80	0.028	0.135	0.837
14	30	0.017	0.135	0.849
14	40	0.017	0.135	0.849
14	50	0.028	0.135	0.837
14	60	0.028	0.135	0.837
14	70	0.028	0.135	0.837
14	80	0.028	0.135	0.837
15	30	0.017	0.135	0.849
15	40	0.017	0.135	0.849
15	50	0.028	0.135	0.837
15	60	0.028	0.135	0.837
15	70	0.028	0.135	0.837
15	80	0.028	0.135	0.837

Link and Junction Combined Accident Proportions
Base Year
2009

Road Type	Speed Limit (mph)	Accident Proportions Fatal	Serious	Slight
1	50	0.018	0.101	0.882
1	60	0.018	0.101	0.882
1	70	0.018	0.101	0.882
1	80	0.018	0.101	0.882

2	50	0.018	0.101	0.882
2	60	0.018	0.101	0.882
2	70	0.018	0.101	0.882
2	80	0.018	0.101	0.882
3	50	0.018	0.101	0.882
3	60	0.018	0.101	0.882
3	70	0.018	0.101	0.882
3	80	0.018	0.101	0.882
4	30	0.008	0.122	0.869
4	40	0.008	0.122	0.869
4	50	0.034	0.187	0.779
4	60	0.034	0.187	0.779
4	70	0.034	0.187	0.779
4	80	0.034	0.187	0.779
5	30	0.008	0.122	0.869
5	40	0.008	0.122	0.869
5	50	0.034	0.187	0.779
5	60	0.034	0.187	0.779
5	70	0.034	0.187	0.779
5	80	0.034	0.187	0.779
6	30	0.008	0.122	0.869
6	40	0.008	0.122	0.869
6	50	0.034	0.187	0.779
6	60	0.034	0.187	0.779
6	70	0.034	0.187	0.779
6	80	0.034	0.187	0.779
7	30	0.008	0.122	0.869
7	40	0.008	0.122	0.869
7	50	0.034	0.187	0.779
7	60	0.034	0.187	0.779
7	70	0.034	0.187	0.779
7	80	0.034	0.187	0.779
8	30	0.008	0.122	0.869
8	40	0.008	0.122	0.869
8	50	0.034	0.187	0.779
8	60	0.034	0.187	0.779
8	70	0.034	0.187	0.779
8	80	0.034	0.187	0.779
9	30	0.007	0.126	0.867
9	40	0.007	0.126	0.867
9	50	0.024	0.187	0.789
9	60	0.024	0.187	0.789
9	70	0.024	0.187	0.789
9	80	0.024	0.187	0.789
10	30	0.009	0.104	0.887
10	40	0.009	0.104	0.887
10	50	0.023	0.127	0.850
10	60	0.023	0.127	0.850
10	70	0.023	0.127	0.850
10	80	0.023	0.127	0.850
11	30	0.009	0.104	0.887
11	40	0.009	0.104	0.887
11	50	0.023	0.127	0.850
11	60	0.023	0.127	0.850

11	70	0.023	0.127	0.850
11	80	0.023	0.127	0.850
12	30	0.009	0.104	0.887
12	40	0.009	0.104	0.887
12	50	0.023	0.127	0.850
12	60	0.023	0.127	0.850
12	70	0.023	0.127	0.850
12	80	0.023	0.127	0.850
13	30	0.009	0.104	0.887
13	40	0.009	0.104	0.887
13	50	0.023	0.127	0.850
13	60	0.023	0.127	0.850
13	70	0.023	0.127	0.850
13	80	0.023	0.127	0.850
14	30	0.009	0.104	0.887
14	40	0.009	0.104	0.887
14	50	0.023	0.127	0.850
14	60	0.023	0.127	0.850
14	70	0.023	0.127	0.850
14	80	0.023	0.127	0.850
15	30	0.009	0.104	0.887
15	40	0.009	0.104	0.887
15	50	0.023	0.127	0.850
15	60	0.023	0.127	0.850
15	70	0.023	0.127	0.850
15	80	0.023	0.127	0.850

Junction Only Accident Proportions

Base Year

2000

Road Type	Speed Limit (mph)	Accident Proportions Fatal	Serious	Slight
1	50	0.024	0.188	0.787
1	60	0.024	0.188	0.787
1	70	0.024	0.188	0.787
1	80	0.024	0.188	0.787
2	30	0.007	0.124	0.869
2	40	0.007	0.124	0.869
3	50	0.024	0.188	0.787
3	60	0.024	0.188	0.787
3	70	0.024	0.188	0.787
3	80	0.024	0.188	0.787
4	30	0.007	0.124	0.869
4	40	0.007	0.124	0.869
5	50	0.027	0.206	0.766
5	60	0.027	0.206	0.766
5	70	0.027	0.206	0.766
5	80	0.027	0.206	0.766
6	30	0.006	0.116	0.878
6	40	0.006	0.116	0.878
7	50	0.027	0.206	0.766
7	60	0.027	0.206	0.766
7	70	0.027	0.206	0.766
7	80	0.027	0.206	0.766

8	30	0.006	0.116	0.878
8	40	0.006	0.116	0.878
9	50	0.027	0.206	0.766
9	60	0.027	0.206	0.766
9	70	0.027	0.206	0.766
9	80	0.027	0.206	0.766
10	30	0.006	0.116	0.878
10	40	0.006	0.116	0.878
11	50	0.027	0.206	0.766
11	60	0.027	0.206	0.766
11	70	0.027	0.206	0.766
11	80	0.027	0.206	0.766
12	30	0.006	0.116	0.878
12	40	0.006	0.116	0.878
13	50	0.024	0.188	0.787
13	60	0.024	0.188	0.787
13	70	0.024	0.188	0.787
13	80	0.024	0.188	0.787
14	30	0.007	0.124	0.869
14	40	0.007	0.124	0.869
15	50	0.024	0.188	0.787
15	60	0.024	0.188	0.787
15	70	0.024	0.188	0.787
15	80	0.024	0.188	0.787
16	30	0.007	0.124	0.869
16	40	0.007	0.124	0.869
17	50	0.027	0.206	0.766
17	60	0.027	0.206	0.766
17	70	0.027	0.206	0.766
17	80	0.027	0.206	0.766
18	30	0.006	0.116	0.878
18	40	0.006	0.116	0.878
19	50	0.027	0.206	0.766
19	60	0.027	0.206	0.766
19	70	0.027	0.206	0.766
19	80	0.027	0.206	0.766
20	30	0.006	0.116	0.878
20	40	0.006	0.116	0.878
21	50	0.027	0.206	0.766
21	60	0.027	0.206	0.766
21	70	0.027	0.206	0.766
21	80	0.027	0.206	0.766
22	30	0.006	0.116	0.878
22	40	0.006	0.116	0.878
23	50	0.027	0.206	0.766
23	60	0.027	0.206	0.766
23	70	0.027	0.206	0.766
23	80	0.027	0.206	0.766
24	30	0.006	0.116	0.878
24	40	0.006	0.116	0.878
25	50	0.024	0.188	0.787
25	60	0.024	0.188	0.787
25	70	0.024	0.188	0.787
25	80	0.024	0.188	0.787

26	30	0.007	0.124	0.869
26	40	0.007	0.124	0.869
27	50	0.024	0.188	0.787
27	60	0.024	0.188	0.787
27	70	0.024	0.188	0.787
27	80	0.024	0.188	0.787
28	30	0.007	0.124	0.869
28	40	0.007	0.124	0.869
29	50	0.027	0.206	0.766
29	60	0.027	0.206	0.766
29	70	0.027	0.206	0.766
29	80	0.027	0.206	0.766
30	30	0.006	0.116	0.878
30	40	0.006	0.116	0.878
31	50	0.027	0.206	0.766
31	60	0.027	0.206	0.766
31	70	0.027	0.206	0.766
31	80	0.027	0.206	0.766
32	30	0.006	0.116	0.878
32	40	0.006	0.116	0.878
33	50	0.027	0.206	0.766
33	60	0.027	0.206	0.766
33	70	0.027	0.206	0.766
33	80	0.027	0.206	0.766
34	30	0.006	0.116	0.878
34	40	0.006	0.116	0.878
35	50	0.027	0.206	0.766
35	60	0.027	0.206	0.766
35	70	0.027	0.206	0.766
35	80	0.027	0.206	0.766
36	30	0.006	0.116	0.878
36	40	0.006	0.116	0.878
37	50	0.009	0.117	0.874
37	60	0.009	0.117	0.874
37	70	0.009	0.117	0.874
37	80	0.009	0.117	0.874
38	30	0.006	0.107	0.887
38	40	0.006	0.107	0.887
39	50	0.009	0.117	0.874
39	60	0.009	0.117	0.874
39	70	0.009	0.117	0.874
39	80	0.009	0.117	0.874
40	30	0.006	0.107	0.887
40	40	0.006	0.107	0.887
41	50	0.009	0.115	0.876
41	60	0.009	0.115	0.876
41	70	0.009	0.115	0.876
41	80	0.009	0.115	0.876
42	30	0.006	0.107	0.887
42	40	0.006	0.107	0.887
43	50	0.009	0.115	0.876
43	60	0.009	0.115	0.876
43	70	0.009	0.115	0.876
43	80	0.009	0.115	0.876

44	30	0.006	0.107	0.887
44	40	0.006	0.107	0.887
45	50	0.009	0.115	0.876
45	60	0.009	0.115	0.876
45	70	0.009	0.115	0.876
45	80	0.009	0.115	0.876
46	30	0.006	0.107	0.887
46	40	0.006	0.107	0.887
47	50	0.009	0.115	0.876
47	60	0.009	0.115	0.876
47	70	0.009	0.115	0.876
47	80	0.009	0.115	0.876
48	30	0.006	0.107	0.887
48	40	0.006	0.107	0.887
49	50	0.006	0.091	0.903
49	60	0.006	0.091	0.903
49	70	0.006	0.091	0.903
49	80	0.006	0.091	0.903
50	30	0.003	0.075	0.923
50	40	0.003	0.075	0.923
51	50	0.006	0.091	0.903
51	60	0.006	0.091	0.903
51	70	0.006	0.091	0.903
51	80	0.006	0.091	0.903
52	30	0.003	0.075	0.923
52	40	0.003	0.075	0.923
53	50	0.006	0.091	0.903
53	60	0.006	0.091	0.903
53	70	0.006	0.091	0.903
53	80	0.006	0.091	0.903
54	30	0.003	0.075	0.923
54	40	0.003	0.075	0.923
55	50	0.006	0.091	0.903
55	60	0.006	0.091	0.903
55	70	0.006	0.091	0.903
55	80	0.006	0.091	0.903
56	30	0.003	0.075	0.923
56	40	0.003	0.075	0.923
57	50	0.006	0.091	0.903
57	60	0.006	0.091	0.903
57	70	0.006	0.091	0.903
57	80	0.006	0.091	0.903
58	30	0.003	0.075	0.923
58	40	0.003	0.075	0.923
59	50	0.006	0.091	0.903
59	60	0.006	0.091	0.903
59	70	0.006	0.091	0.903
59	80	0.006	0.091	0.903
60	30	0.003	0.075	0.923
60	40	0.003	0.075	0.923
61	50	0.006	0.091	0.903
61	60	0.006	0.091	0.903
61	70	0.006	0.091	0.903
61	80	0.006	0.091	0.903

62	30	0.003	0.075	0.923
62	40	0.003	0.075	0.923
63	50	0.006	0.091	0.903
63	60	0.006	0.091	0.903
63	70	0.006	0.091	0.903
63	80	0.006	0.091	0.903
64	30	0.003	0.075	0.923
64	40	0.003	0.075	0.923
65	50	0.006	0.091	0.903
65	60	0.006	0.091	0.903
65	70	0.006	0.091	0.903
65	80	0.006	0.091	0.903
66	30	0.003	0.075	0.923
66	40	0.003	0.075	0.923
67	50	0.006	0.091	0.903
67	60	0.006	0.091	0.903
67	70	0.006	0.091	0.903
67	80	0.006	0.091	0.903
68	30	0.003	0.075	0.923
68	40	0.003	0.075	0.923
69	50	0.006	0.091	0.903
69	60	0.006	0.091	0.903
69	70	0.006	0.091	0.903
69	80	0.006	0.091	0.903
70	30	0.003	0.075	0.923
70	40	0.003	0.075	0.923
71	50	0.006	0.091	0.903
71	60	0.006	0.091	0.903
71	70	0.006	0.091	0.903
71	80	0.006	0.091	0.903
72	30	0.003	0.075	0.923
72	40	0.003	0.075	0.923
73	50	0.006	0.091	0.903
73	60	0.006	0.091	0.903
73	70	0.006	0.091	0.903
73	80	0.006	0.091	0.903
74	30	0.003	0.087	0.910
74	40	0.003	0.087	0.910
75	50	0.006	0.091	0.903
75	60	0.006	0.091	0.903
75	70	0.006	0.091	0.903
75	80	0.006	0.091	0.903
76	30	0.003	0.087	0.910
76	40	0.003	0.087	0.910
77	50	0.006	0.091	0.903
77	60	0.006	0.091	0.903
77	70	0.006	0.091	0.903
77	80	0.006	0.091	0.903
78	30	0.003	0.087	0.910
78	40	0.003	0.087	0.910
79	50	0.006	0.091	0.903
79	60	0.006	0.091	0.903
79	70	0.006	0.091	0.903
79	80	0.006	0.091	0.903

80	30	0.003	0.087	0.910
80	40	0.003	0.087	0.910
81	50	0.006	0.091	0.903
81	60	0.006	0.091	0.903
81	70	0.006	0.091	0.903
81	80	0.006	0.091	0.903
82	30	0.003	0.087	0.910
82	40	0.003	0.087	0.910
83	50	0.006	0.091	0.903
83	60	0.006	0.091	0.903
83	70	0.006	0.091	0.903
83	80	0.006	0.091	0.903
84	30	0.003	0.087	0.910
84	40	0.003	0.087	0.910
85	50	0.004	0.062	0.934
85	60	0.004	0.062	0.934
85	70	0.004	0.062	0.934
85	80	0.004	0.062	0.934
86	30	0.003	0.064	0.933
86	40	0.003	0.064	0.933
87	50	0.004	0.062	0.934
87	60	0.004	0.062	0.934
87	70	0.004	0.062	0.934
87	80	0.004	0.062	0.934
88	30	0.003	0.064	0.933
88	40	0.003	0.064	0.933
89	50	0.004	0.062	0.934
89	60	0.004	0.062	0.934
89	70	0.004	0.062	0.934
89	80	0.004	0.062	0.934
90	30	0.003	0.064	0.933
90	40	0.003	0.064	0.933
91	50	0.004	0.062	0.934
91	60	0.004	0.062	0.934
91	70	0.004	0.062	0.934
91	80	0.004	0.062	0.934
92	30	0.003	0.064	0.933
92	40	0.003	0.064	0.933
93	50	0.004	0.062	0.934
93	60	0.004	0.062	0.934
93	70	0.004	0.062	0.934
93	80	0.004	0.062	0.934
94	30	0.003	0.064	0.933
94	40	0.003	0.064	0.933
95	50	0.004	0.062	0.934
95	60	0.004	0.062	0.934
95	70	0.004	0.062	0.934
95	80	0.004	0.062	0.934
96	30	0.003	0.064	0.933
96	40	0.003	0.064	0.933

Link Only Accident Rates and Change Factors
Base Year
2009

Road Type	Speed Limit (mph)	Accident Rate	Beta Factor
1	50	0.063	0.956
1	60	0.063	0.956
1	70	0.063	0.956
2	50	0.063	0.956
2	60	0.063	0.956
2	70	0.063	0.956
3	50	0.075	0.956
3	60	0.075	0.956
3	70	0.075	0.956
4	30	0.175	0.964
4	40	0.175	0.964
4	50	0.143	0.958
4	60	0.143	0.958
4	70	0.143	0.958
4	80	0.143	0.958
5	30	0.175	0.964
5	40	0.175	0.964
5	50	0.143	0.958
5	60	0.143	0.958
5	70	0.143	0.958
5	80	0.143	0.958
6	30	0.206	0.964
6	40	0.206	0.964
6	50	0.082	0.958
6	60	0.082	0.958
6	70	0.082	0.958
6	80	0.082	0.958
7	30	0.206	0.964
7	40	0.206	0.964
7	50	0.082	0.958
7	60	0.082	0.958
7	70	0.082	0.958
7	80	0.082	0.958
8	30	0.206	0.964
8	40	0.206	0.964
8	50	0.143	0.958
8	60	0.143	0.958
8	70	0.143	0.958
8	80	0.143	0.958
9	30	0.195	0.957
9	40	0.195	0.957
9	50	0.163	0.935
9	60	0.163	0.935
9	70	0.163	0.935
9	80	0.163	0.935
10	30	0.148	0.965
10	40	0.148	0.965
10	50	0.077	0.960
10	60	0.077	0.960
10	70	0.077	0.960
10	80	0.077	0.960
11	30	0.154	0.965

11	40	0.154	0.965
11	50	0.059	0.960
11	60	0.059	0.960
11	70	0.059	0.960
11	80	0.059	0.960
12	30	0.154	0.965
12	40	0.154	0.965
12	50	0.077	0.960
12	60	0.077	0.960
12	70	0.077	0.960
12	80	0.077	0.960
13	30	0.184	0.949
13	40	0.184	0.949
13	50	0.101	0.956
13	60	0.101	0.956
13	70	0.101	0.956
13	80	0.101	0.956
14	30	0.184	0.949
14	40	0.184	0.949
14	50	0.101	0.956
14	60	0.101	0.956
14	70	0.101	0.956
14	80	0.101	0.956
15	30	0.184	0.949
15	40	0.184	0.949
15	50	0.101	0.956
15	60	0.101	0.956
15	70	0.101	0.956
15	80	0.101	0.956

Link and Junction Combined Accident Rates and Change Factors
Base Year
2009

Road Type	Speed Limit (mph)	Accident Rate	Beta Factor
1	50	0.080	0.956
1	60	0.080	0.956
1	70	0.080	0.956
2	50	0.067	0.956
2	60	0.067	0.956
2	70	0.067	0.956
3	50	0.079	0.956
3	60	0.079	0.956
3	70	0.079	0.956
4	30	0.532	0.959
4	40	0.532	0.959
4	50	0.244	0.955
4	60	0.244	0.955
4	70	0.244	0.955
4	80	0.244	0.955
5	30	0.532	0.959
5	40	0.532	0.959
5	50	0.244	0.955
5	60	0.244	0.955

5	70	0.244	0.955
5	80	0.244	0.955
6	30	0.863	0.959
6	40	0.863	0.959
6	50	0.163	0.955
6	60	0.163	0.955
6	70	0.163	0.955
6	80	0.163	0.955
7	30	0.863	0.959
7	40	0.863	0.959
7	50	0.163	0.955
7	60	0.163	0.955
7	70	0.163	0.955
7	80	0.163	0.955
8	30	0.863	0.959
8	40	0.863	0.959
8	50	0.244	0.955
8	60	0.244	0.955
8	70	0.244	0.955
8	80	0.244	0.955
9	30	0.559	0.951
9	40	0.559	0.951
9	50	0.233	0.933
9	60	0.233	0.933
9	70	0.233	0.933
9	80	0.233	0.933
10	30	0.553	0.967
10	40	0.553	0.967
10	50	0.107	0.956
10	60	0.107	0.956
10	70	0.107	0.956
10	80	0.107	0.956
11	30	0.599	0.967
11	40	0.599	0.967
11	50	0.072	0.956
11	60	0.072	0.956
11	70	0.072	0.956
11	80	0.072	0.956
12	30	0.599	0.967
12	40	0.599	0.967
12	50	0.107	0.956
12	60	0.107	0.956
12	70	0.107	0.956
12	80	0.107	0.956
13	30	0.620	0.951
13	40	0.620	0.951
13	50	0.123	0.946
13	60	0.123	0.946
13	70	0.123	0.946
13	80	0.123	0.946
14	30	0.620	0.951
14	40	0.620	0.951
14	50	0.123	0.946
14	60	0.123	0.946

14	70	0.123	0.946
14	80	0.123	0.946
15	30	0.620	0.951
15	40	0.620	0.951
15	50	0.123	0.946
15	60	0.123	0.946
15	70	0.123	0.946
15	80	0.123	0.946

Link Only and Link and Junction Combined Accident Beta Factor Changes over Time

Range of Years	Change to Beta Factor
2004-2019	1.000
2020-2029	0.500
2030-2039	0.250
2040-2153	0.000

Link Only Casualty Rates

Base Year

2009

Road Type	Speed Limit (mph)	Casualties per P.I.A. Fatal	Serious	Slight
1	50	0.021	0.129	1.464
1	60	0.021	0.129	1.464
1	70	0.021	0.129	1.464
2	50	0.021	0.129	1.464
2	60	0.021	0.129	1.464
2	70	0.021	0.129	1.464
3	50	0.021	0.129	1.464
3	60	0.021	0.129	1.464
3	70	0.021	0.129	1.464
4	30	0.015	0.162	1.154
4	40	0.015	0.162	1.154
4	50	0.052	0.274	1.251
4	60	0.052	0.274	1.251
4	70	0.052	0.274	1.251
4	80	0.052	0.274	1.251
5	30	0.015	0.162	1.154
5	40	0.015	0.162	1.154
5	50	0.052	0.274	1.251
5	60	0.052	0.274	1.251
5	70	0.052	0.274	1.251
5	80	0.052	0.274	1.251
6	30	0.015	0.162	1.154
6	40	0.015	0.162	1.154
6	50	0.052	0.274	1.251
6	60	0.052	0.274	1.251
6	70	0.052	0.274	1.251
6	80	0.052	0.274	1.251
7	30	0.015	0.162	1.154
7	40	0.015	0.162	1.154
7	50	0.052	0.274	1.251
7	60	0.052	0.274	1.251
7	70	0.052	0.274	1.251

7	80	0.052	0.274	1.251
8	30	0.015	0.162	1.154
8	40	0.015	0.162	1.154
8	50	0.052	0.274	1.251
8	60	0.052	0.274	1.251
8	70	0.052	0.274	1.251
8	80	0.052	0.274	1.251
9	30	0.010	0.156	1.071
9	40	0.010	0.156	1.071
9	50	0.028	0.230	1.178
9	60	0.028	0.230	1.178
9	70	0.028	0.230	1.178
9	80	0.028	0.230	1.178
10	30	0.018	0.148	1.183
10	40	0.018	0.148	1.183
10	50	0.031	0.161	1.328
10	60	0.031	0.161	1.328
10	70	0.031	0.161	1.328
10	80	0.031	0.161	1.328
11	30	0.018	0.148	1.183
11	40	0.018	0.148	1.183
11	50	0.031	0.161	1.328
11	60	0.031	0.161	1.328
11	70	0.031	0.161	1.328
11	80	0.031	0.161	1.328
12	30	0.018	0.148	1.183
12	40	0.018	0.148	1.183
12	50	0.031	0.161	1.328
12	60	0.031	0.161	1.328
12	70	0.031	0.161	1.328
12	80	0.031	0.161	1.328
13	30	0.018	0.148	1.183
13	40	0.018	0.148	1.183
13	50	0.031	0.161	1.328
13	60	0.031	0.161	1.328
13	70	0.031	0.161	1.328
13	80	0.031	0.161	1.328
14	30	0.018	0.148	1.183
14	40	0.018	0.148	1.183
14	50	0.031	0.161	1.328
14	60	0.031	0.161	1.328
14	70	0.031	0.161	1.328
14	80	0.031	0.161	1.328
15	30	0.018	0.148	1.183
15	40	0.018	0.148	1.183
15	50	0.031	0.161	1.328
15	60	0.031	0.161	1.328
15	70	0.031	0.161	1.328
15	80	0.031	0.161	1.328

Link and Junction Combined Casualty Rates
Base Year
2009

Road Type	Speed Limit	Casualties per P.I.A.

	(mph)	Fatal	Serious	Slight
1	50	0.020	0.123	1.455
1	60	0.020	0.123	1.455
1	70	0.020	0.123	1.455
2	50	0.020	0.123	1.455
2	60	0.020	0.123	1.455
2	70	0.020	0.123	1.455
3	50	0.020	0.123	1.455
3	60	0.020	0.123	1.455
3	70	0.020	0.123	1.455
4	30	0.009	0.132	1.176
4	40	0.009	0.132	1.176
4	50	0.038	0.238	1.300
4	60	0.038	0.238	1.300
4	70	0.038	0.238	1.300
4	80	0.038	0.238	1.300
5	30	0.009	0.132	1.176
5	40	0.009	0.132	1.176
5	50	0.038	0.238	1.300
5	60	0.038	0.238	1.300
5	70	0.038	0.238	1.300
5	80	0.038	0.238	1.300
6	30	0.009	0.132	1.176
6	40	0.009	0.132	1.176
6	50	0.038	0.238	1.300
6	60	0.038	0.238	1.300
6	70	0.038	0.238	1.300
6	80	0.038	0.238	1.300
7	30	0.009	0.132	1.176
7	40	0.009	0.132	1.176
7	50	0.038	0.238	1.300
7	60	0.038	0.238	1.300
7	70	0.038	0.238	1.300
7	80	0.038	0.238	1.300
8	30	0.009	0.132	1.176
8	40	0.009	0.132	1.176
8	50	0.038	0.238	1.300
8	60	0.038	0.238	1.300
8	70	0.038	0.238	1.300
8	80	0.038	0.238	1.300
9	30	0.007	0.134	1.132
9	40	0.007	0.134	1.132
9	50	0.026	0.222	1.218
9	60	0.026	0.222	1.218
9	70	0.026	0.222	1.218
9	80	0.026	0.222	1.218
10	30	0.009	0.112	1.238
10	40	0.009	0.112	1.238
10	50	0.025	0.151	1.297
10	60	0.025	0.151	1.297
10	70	0.025	0.151	1.297
10	80	0.025	0.151	1.297
11	30	0.009	0.112	1.238
11	40	0.009	0.112	1.238

11	50	0.025	0.151	1.297
11	60	0.025	0.151	1.297
11	70	0.025	0.151	1.297
11	80	0.025	0.151	1.297
12	30	0.009	0.112	1.238
12	40	0.009	0.112	1.238
12	50	0.025	0.151	1.297
12	60	0.025	0.151	1.297
12	70	0.025	0.151	1.297
12	80	0.025	0.151	1.297
13	30	0.009	0.112	1.238
13	40	0.009	0.112	1.238
13	50	0.025	0.151	1.297
13	60	0.025	0.151	1.297
13	70	0.025	0.151	1.297
13	80	0.025	0.151	1.297
14	30	0.009	0.112	1.238
14	40	0.009	0.112	1.238
14	50	0.025	0.151	1.297
14	60	0.025	0.151	1.297
14	70	0.025	0.151	1.297
14	80	0.025	0.151	1.297
15	30	0.009	0.112	1.238
15	40	0.009	0.112	1.238
15	50	0.025	0.151	1.297
15	60	0.025	0.151	1.297
15	70	0.025	0.151	1.297
15	80	0.025	0.151	1.297

Link Only Casualty Change Factors
Base Year
2009

Road Type	Speed Limit (mph)	Beta Factor Fatal	Serious	Slight
1	50	0.978	0.979	1.002
1	60	0.978	0.979	1.002
1	70	0.978	0.979	1.002
2	50	0.978	0.979	1.002
2	60	0.978	0.979	1.002
2	70	0.978	0.979	1.002
3	50	0.978	0.979	1.002
3	60	0.978	0.979	1.002
3	70	0.978	0.979	1.002
4	30	0.971	0.995	1.001
4	40	0.971	0.995	1.001
4	50	0.979	0.983	1.002
4	60	0.979	0.983	1.002
4	70	0.979	0.983	1.002
4	80	0.979	0.983	1.002
5	30	0.971	0.995	1.001
5	40	0.971	0.995	1.001
5	50	0.979	0.983	1.002
5	60	0.979	0.983	1.002
5	70	0.979	0.983	1.002

5	80	0.979	0.983	1.002
6	30	0.971	0.995	1.001
6	40	0.971	0.995	1.001
6	50	0.979	0.983	1.002
6	60	0.979	0.983	1.002
6	70	0.979	0.983	1.002
6	80	0.979	0.983	1.002
7	30	0.971	0.995	1.001
7	40	0.971	0.995	1.001
7	50	0.979	0.983	1.002
7	60	0.979	0.983	1.002
7	70	0.979	0.983	1.002
7	80	0.979	0.983	1.002
8	30	0.971	0.995	1.001
8	40	0.971	0.995	1.001
8	50	0.979	0.983	1.002
8	60	0.979	0.983	1.002
8	70	0.979	0.983	1.002
8	80	0.979	0.983	1.002
9	30	0.985	0.997	1.001
9	40	0.985	0.997	1.001
9	50	0.987	0.989	0.998
9	60	0.987	0.989	0.998
9	70	0.987	0.989	0.998
9	80	0.987	0.989	0.998
10	30	0.998	0.990	1.002
10	40	0.998	0.990	1.002
10	50	0.984	0.985	0.998
10	60	0.984	0.985	0.998
10	70	0.984	0.985	0.998
10	80	0.984	0.985	0.998
11	30	0.998	0.990	1.002
11	40	0.998	0.990	1.002
11	50	0.984	0.985	0.998
11	60	0.984	0.985	0.998
11	70	0.984	0.985	0.998
11	80	0.984	0.985	0.998
12	30	0.998	0.990	1.002
12	40	0.998	0.990	1.002
12	50	0.984	0.985	0.998
12	60	0.984	0.985	0.998
12	70	0.984	0.985	0.998
12	80	0.984	0.985	0.998
13	30	0.998	0.990	1.002
13	40	0.998	0.990	1.002
13	50	0.984	0.985	0.998
13	60	0.984	0.985	0.998
13	70	0.984	0.985	0.998
13	80	0.984	0.985	0.998
14	30	0.998	0.990	1.002
14	40	0.998	0.990	1.002
14	50	0.984	0.985	0.998
14	60	0.984	0.985	0.998
14	70	0.984	0.985	0.998

14	80	0.984	0.985	0.998
15	30	0.998	0.990	1.002
15	40	0.998	0.990	1.002
15	50	0.984	0.985	0.998
15	60	0.984	0.985	0.998
15	70	0.984	0.985	0.998
15	80	0.984	0.985	0.998

Link and Junction Combined Casualty Change Factors
Base Year
2009

Road Type	Speed Limit (mph)	Beta Factor Fatal	Serious	Slight
1	50	0.978	0.979	1.002
1	60	0.978	0.979	1.002
1	70	0.978	0.979	1.002
2	50	0.978	0.979	1.002
2	60	0.978	0.979	1.002
2	70	0.978	0.979	1.002
3	50	0.978	0.979	1.002
3	60	0.978	0.979	1.002
3	70	0.978	0.979	1.002
4	30	0.971	0.995	1.001
4	40	0.971	0.995	1.001
4	50	0.979	0.983	1.002
4	60	0.979	0.983	1.002
4	70	0.979	0.983	1.002
4	80	0.979	0.983	1.002
5	30	0.971	0.995	1.001
5	40	0.971	0.995	1.001
5	50	0.979	0.983	1.002
5	60	0.979	0.983	1.002
5	70	0.979	0.983	1.002
5	80	0.979	0.983	1.002
6	30	0.971	0.995	1.001
6	40	0.971	0.995	1.001
6	50	0.979	0.983	1.002
6	60	0.979	0.983	1.002
6	70	0.979	0.983	1.002
6	80	0.979	0.983	1.002
7	30	0.971	0.995	1.001
7	40	0.971	0.995	1.001
7	50	0.979	0.983	1.002
7	60	0.979	0.983	1.002
7	70	0.979	0.983	1.002
7	80	0.979	0.983	1.002
8	30	0.971	0.995	1.001
8	40	0.971	0.995	1.001
8	50	0.979	0.983	1.002
8	60	0.979	0.983	1.002
8	70	0.979	0.983	1.002
8	80	0.979	0.983	1.002
9	30	0.985	0.997	1.001
9	40	0.985	0.997	1.001

9	50	0.987	0.989	0.998
9	60	0.987	0.989	0.998
9	70	0.987	0.989	0.998
9	80	0.987	0.989	0.998
10	30	0.998	0.990	1.002
10	40	0.998	0.990	1.002
10	50	0.984	0.985	0.998
10	60	0.984	0.985	0.998
10	70	0.984	0.985	0.998
10	80	0.984	0.985	0.998
11	30	0.998	0.990	1.002
11	40	0.998	0.990	1.002
11	50	0.984	0.985	0.998
11	60	0.984	0.985	0.998
11	70	0.984	0.985	0.998
11	80	0.984	0.985	0.998
12	30	0.998	0.990	1.002
12	40	0.998	0.990	1.002
12	50	0.984	0.985	0.998
12	60	0.984	0.985	0.998
12	70	0.984	0.985	0.998
12	80	0.984	0.985	0.998
13	30	0.998	0.990	1.002
13	40	0.998	0.990	1.002
13	50	0.984	0.985	0.998
13	60	0.984	0.985	0.998
13	70	0.984	0.985	0.998
13	80	0.984	0.985	0.998
14	30	0.998	0.990	1.002
14	40	0.998	0.990	1.002
14	50	0.984	0.985	0.998
14	60	0.984	0.985	0.998
14	70	0.984	0.985	0.998
14	80	0.984	0.985	0.998
15	30	0.998	0.990	1.002
15	40	0.998	0.990	1.002
15	50	0.984	0.985	0.998
15	60	0.984	0.985	0.998
15	70	0.984	0.985	0.998
15	80	0.984	0.985	0.998

Link Only and Link and Junction Combined Casualty Beta Factor Changes over Time

Range of Years	Change to Beta Factor
1995-2019	1.000
2020-2144	0.000

Junction Only Accident Parameters

Base Year

1997

Junction Type	Speed Limit (mph)	Coefficient 'a'	Power 'b'	Arms	Highest Link (S/D)	Formula Type

```
 1               50              0.195           0.460   3       S
C
 1               60              0.195           0.460   3       S
C
 1               70              0.195           0.460   3       S
C
 1               80              0.195           0.460   3       S
C
 2               20              0.195           0.460   3       S
C
 2               30              0.195           0.460   3       S
C
 2               40              0.195           0.460   3       S
C
 3               50              0.195           0.460   3       D
C
 3               60              0.195           0.460   3       D
C
 3               70              0.195           0.460   3       D
C
 3               80              0.195           0.460   3       D
C
 4               20              0.195           0.460   3       D
C
 4               30              0.195           0.460   3       D
C
 4               40              0.195           0.460   3       D
C
 5               50              0.361           0.440   4       S
I
 5               60              0.361           0.440   4       S
I
 5               70              0.361           0.440   4       S
I
 5               80              0.361           0.440   4       S
I
 6               20              0.361           0.440   4       S
I
 6               30              0.361           0.440   4       S
I
 6               40              0.361           0.440   4       S
I
 7               50              0.240           0.710   4       D
C
 7               60              0.240           0.710   4       D
C
 7               70              0.240           0.710   4       D
C
 7               80              0.240           0.710   4       D
C
 8               20              0.240           0.710   4       D
C
 8               30              0.240           0.710   4       D
C
```

```
 8                40                0.240             0.710    4        D
C
 9                50                0.361             0.440    5        S
I
 9                60                0.361             0.440    5        S
I
 9                70                0.361             0.440    5        S
I
 9                80                0.361             0.440    5        S
I
 10               20                0.361             0.440    5        S
I
 10               30                0.361             0.440    5        S
I
 10               40                0.361             0.440    5        S
I
 11               50                0.361             0.440    5        D
I
 11               60                0.361             0.440    5        D
I
 11               70                0.361             0.440    5        D
I
 11               80                0.361             0.440    5        D
I
 12               20                0.361             0.440    5        D
I
 12               30                0.361             0.440    5        D
I
 12               40                0.361             0.440    5        D
I
 13               50                0.195             0.460    3        S
C
 13               60                0.195             0.460    3        S
C
 13               70                0.195             0.460    3        S
C
 13               80                0.195             0.460    3        S
C
 14               20                0.195             0.460    3        S
C
 14               30                0.195             0.460    3        S
C
 14               40                0.195             0.460    3        S
C
 15               50                0.195             0.460    3        D
C
 15               60                0.195             0.460    3        D
C
 15               70                0.195             0.460    3        D
C
 15               80                0.195             0.460    3        D
C
 16               20                0.195             0.460    3        D
C
```

```
 16              30              0.195           0.460   3       D
C
 16              40              0.195           0.460   3       D
C
 17              50              0.361           0.440   4       S
I
 17              60              0.361           0.440   4       S
I
 17              70              0.361           0.440   4       S
I
 17              80              0.361           0.440   4       S
I
 18              20              0.361           0.440   4       S
I
 18              30              0.361           0.440   4       S
I
 18              40              0.361           0.440   4       S
I
 19              50              0.240           0.710   4       D
C
 19              60              0.240           0.710   4       D
C
 19              70              0.240           0.710   4       D
C
 19              80              0.240           0.710   4       D
C
 20              20              0.240           0.710   4       D
C
 20              30              0.240           0.710   4       D
C
 20              40              0.240           0.710   4       D
C
 21              50              0.361           0.440   5       S
I
 21              60              0.361           0.440   5       S
I
 21              70              0.361           0.440   5       S
I
 21              80              0.361           0.440   5       S
I
 22              20              0.361           0.440   5       S
I
 22              30              0.361           0.440   5       S
I
 22              40              0.361           0.440   5       S
I
 23              50              0.361           0.440   5       D
I
 23              60              0.361           0.440   5       D
I
 23              70              0.361           0.440   5       D
I
 23              80              0.361           0.440   5       D
I
```

```
 24              20              0.361           0.440   5       D
I
 24              30              0.361           0.440   5       D
I
 24              40              0.361           0.440   5       D
I
 25              50              0.195           0.460   3       S
C
 25              60              0.195           0.460   3       S
C
 25              70              0.195           0.460   3       S
C
 25              80              0.195           0.460   3       S
C
 26              20              0.195           0.460   3       S
C
 26              30              0.195           0.460   3       S
C
 26              40              0.195           0.460   3       S
C
 27              50              0.195           0.460   3       D
C
 27              60              0.195           0.460   3       D
C
 27              70              0.195           0.460   3       D
C
 27              80              0.195           0.460   3       D
C
 28              20              0.195           0.460   3       D
C
 28              30              0.195           0.460   3       D
C
 28              40              0.195           0.460   3       D
C
 29              50              0.361           0.440   4       S
I
 29              60              0.361           0.440   4       S
I
 29              70              0.361           0.440   4       S
I
 29              80              0.361           0.440   4       S
I
 30              20              0.361           0.440   4       S
I
 30              30              0.361           0.440   4       S
I
 30              40              0.361           0.440   4       S
I
 31              50              0.240           0.710   4       D
C
 31              60              0.240           0.710   4       D
C
 31              70              0.240           0.710   4       D
C
```

31	80	0.240	0.710	4	DC
32	20	0.240	0.710	4	DC
32	30	0.240	0.710	4	DC
32	40	0.240	0.710	4	DC
33	50	0.361	0.440	5	SI
33	60	0.361	0.440	5	SI
33	70	0.361	0.440	5	SI
33	80	0.361	0.440	5	SI
34	20	0.361	0.440	5	SI
34	30	0.361	0.440	5	SI
34	40	0.361	0.440	5	SI
35	50	0.361	0.440	5	DI
35	60	0.361	0.440	5	DI
35	70	0.361	0.440	5	DI
35	80	0.361	0.440	5	DI
36	20	0.361	0.440	5	DI
36	30	0.361	0.440	5	DI
36	40	0.361	0.440	5	DI
37	50	0.223	0.610	3	SI
37	60	0.223	0.610	3	SI
37	70	0.223	0.610	3	SI
37	80	0.223	0.610	3	SI
38	20	0.223	0.610	3	SI
38	30	0.223	0.610	3	SI
38	40	0.223	0.610	3	SI
39	50	0.494	0.420	3	DC
39	60	0.494	0.420	3	DC

39	70	0.494	0.420	3	D
C					
39	80	0.494	0.420	3	D
C					
40	20	0.291	0.510	3	D
C					
40	30	0.291	0.510	3	D
C					
40	40	0.291	0.510	3	D
C					
41	50	1.378	0.200	4	S
C					
41	60	1.378	0.200	4	S
C					
41	70	1.378	0.200	4	S
C					
41	80	1.378	0.200	4	S
C					
42	20	1.378	0.200	4	S
C					
42	30	1.378	0.200	4	S
C					
42	40	1.378	0.200	4	S
C					
43	50	0.494	0.420	4	D
C					
43	60	0.494	0.420	4	D
C					
43	70	0.494	0.420	4	D
C					
43	80	0.494	0.420	4	D
C					
44	20	0.291	0.510	4	D
C					
44	30	0.291	0.510	4	D
C					
44	40	0.291	0.510	4	D
C					
45	50	0.254	0.620	5	S
I					
45	60	0.254	0.620	5	S
I					
45	70	0.254	0.620	5	S
I					
45	80	0.254	0.620	5	S
I					
46	20	0.254	0.620	5	S
I					
46	30	0.254	0.620	5	S
I					
46	40	0.254	0.620	5	S
I					
47	50	0.238	0.850	5	D
I					

```
 47              60              0.238           0.850   5       D
I
 47              70              0.238           0.850   5       D
I
 47              80              0.238           0.850   5       D
I
 48              20              0.160           0.970   5       D
I
 48              30              0.160           0.970   5       D
I
 48              40              0.160           0.970   5       D
I
 49              50              0.033           0.760   3       S
C
 49              60              0.033           0.760   3       S
C
 49              70              0.033           0.760   3       S
C
 49              80              0.033           0.760   3       S
C
 50              20              0.033           0.760   3       S
C
 50              30              0.033           0.760   3       S
C
 50              40              0.033           0.760   3       S
C
 51              50              0.033           0.760   3       D
C
 51              60              0.033           0.760   3       D
C
 51              70              0.033           0.760   3       D
C
 51              80              0.033           0.760   3       D
C
 52              20              0.033           0.760   3       D
C
 52              30              0.033           0.760   3       D
C
 52              40              0.033           0.760   3       D
C
 53              50              0.024           0.890   4       S
C
 53              60              0.024           0.890   4       S
C
 53              70              0.024           0.890   4       S
C
 53              80              0.024           0.890   4       S
C
 54              20              0.048           0.740   4       S
C
 54              30              0.048           0.740   4       S
C
 54              40              0.048           0.740   4       S
C
```

```
 55              50              0.063           0.690   4       D
C
 55              60              0.063           0.690   4       D
C
 55              70              0.063           0.690   4       D
C
 55              80              0.063           0.690   4       D
C
 56              20              0.022           0.850   4       D
C
 56              30              0.022           0.850   4       D
C
 56              40              0.022           0.850   4       D
C
 57              50              0.007           1.770   5       S
I
 57              60              0.007           1.770   5       S
I
 57              70              0.007           1.770   5       S
I
 57              80              0.007           1.770   5       S
I
 58              20              0.014           1.530   5       S
I
 58              30              0.014           1.530   5       S
I
 58              40              0.014           1.530   5       S
I
 59              50              0.019           1.420   5       D
I
 59              60              0.019           1.420   5       D
I
 59              70              0.019           1.420   5       D
I
 59              80              0.019           1.420   5       D
I
 60              20              0.006           1.730   5       D
I
 60              30              0.006           1.730   5       D
I
 60              40              0.006           1.730   5       D
I
 61              50              0.033           0.760   3       S
C
 61              60              0.033           0.760   3       S
C
 61              70              0.033           0.760   3       S
C
 61              80              0.033           0.760   3       S
C
 62              20              0.033           0.760   3       S
C
 62              30              0.033           0.760   3       S
C
```

```
 62              40              0.033           0.760   3       S
C
 63              50              0.033           0.760   3       D
C
 63              60              0.033           0.760   3       D
C
 63              70              0.033           0.760   3       D
C
 63              80              0.033           0.760   3       D
C
 64              20              0.033           0.760   3       D
C
 64              30              0.033           0.760   3       D
C
 64              40              0.033           0.760   3       D
C
 65              50              0.101           0.660   4       S
C
 65              60              0.101           0.660   4       S
C
 65              70              0.101           0.660   4       S
C
 65              80              0.101           0.660   4       S
C
 66              20              0.263           0.540   4       S
C
 66              30              0.263           0.540   4       S
C
 66              40              0.263           0.540   4       S
C
 67              50              0.101           0.660   4       D
C
 67              60              0.101           0.660   4       D
C
 67              70              0.101           0.660   4       D
C
 67              80              0.101           0.660   4       D
C
 68              20              0.263           0.540   4       D
C
 68              30              0.263           0.540   4       D
C
 68              40              0.263           0.540   4       D
C
 69              50              0.044           1.280   5       S
I
 69              60              0.044           1.280   5       S
I
 69              70              0.044           1.280   5       S
I
 69              80              0.044           1.280   5       S
I
 70              20              0.095           1.140   5       S
I
```

```
 70              30              0.095           1.140   5       S
I
 70              40              0.095           1.140   5       S
I
 71              50              0.044           1.280   5       D
I
 71              60              0.044           1.280   5       D
I
 71              70              0.044           1.280   5       D
I
 71              80              0.044           1.280   5       D
I
 72              20              0.095           1.140   5       D
I
 72              30              0.095           1.140   5       D
I
 72              40              0.095           1.140   5       D
I
 73              50              0.012           1.040   3       S
C
 73              60              0.012           1.040   3       S
C
 73              70              0.012           1.040   3       S
C
 73              80              0.012           1.040   3       S
C
 74              20              0.012           1.040   3       S
C
 74              30              0.012           1.040   3       S
C
 74              40              0.012           1.040   3       S
C
 75              50              0.012           1.040   3       D
C
 75              60              0.012           1.040   3       D
C
 75              70              0.012           1.040   3       D
C
 75              80              0.012           1.040   3       D
C
 76              20              0.012           1.040   3       D
C
 76              30              0.012           1.040   3       D
C
 76              40              0.012           1.040   3       D
C
 77              50              0.070           0.640   4       S
C
 77              60              0.070           0.640   4       S
C
 77              70              0.070           0.640   4       S
C
 77              80              0.070           0.640   4       S
C
```

```
 78              20              0.070           0.640   4       S
C
 78              30              0.070           0.640   4       S
C
 78              40              0.070           0.640   4       S
C
 79              50              0.070           0.640   4       D
C
 79              60              0.070           0.640   4       D
C
 79              70              0.070           0.640   4       D
C
 79              80              0.070           0.640   4       D
C
 80              20              0.070           0.640   4       D
C
 80              30              0.070           0.640   4       D
C
 80              40              0.070           0.640   4       D
C
 81              50              0.013           1.470   5       S
I
 81              60              0.013           1.470   5       S
I
 81              70              0.013           1.470   5       S
I
 81              80              0.013           1.470   5       S
I
 82              20              0.013           1.470   5       S
I
 82              30              0.013           1.470   5       S
I
 82              40              0.013           1.470   5       S
I
 83              50              0.013           1.470   5       D
I
 83              60              0.013           1.470   5       D
I
 83              70              0.013           1.470   5       D
I
 83              80              0.013           1.470   5       D
I
 84              20              0.013           1.470   5       D
I
 84              30              0.013           1.470   5       D
I
 84              40              0.013           1.470   5       D
I
 85              50              0.033           0.760   3       S
C
 85              60              0.033           0.760   3       S
C
 85              70              0.033           0.760   3       S
C
```

```
 85              80              0.033           0.760   3       S
C
 86              20              0.033           0.760   3       S
C
 86              30              0.033           0.760   3       S
C
 86              40              0.033           0.760   3       S
C
 87              50              0.033           0.760   3       D
C
 87              60              0.033           0.760   3       D
C
 87              70              0.033           0.760   3       D
C
 87              80              0.033           0.760   3       D
C
 88              20              0.033           0.760   3       D
C
 88              30              0.033           0.760   3       D
C
 88              40              0.033           0.760   3       D
C
 89              50              0.024           0.890   4       S
C
 89              60              0.024           0.890   4       S
C
 89              70              0.024           0.890   4       S
C
 89              80              0.024           0.890   4       S
C
 90              20              0.048           0.740   4       S
C
 90              30              0.048           0.740   4       S
C
 90              40              0.048           0.740   4       S
C
 91              50              0.063           0.690   4       D
C
 91              60              0.063           0.690   4       D
C
 91              70              0.063           0.690   4       D
C
 91              80              0.063           0.690   4       D
C
 92              20              0.022           0.850   4       D
C
 92              30              0.022           0.850   4       D
C
 92              40              0.022           0.850   4       D
C
 93              50              0.007           1.770   5       S
I
 93              60              0.007           1.770   5       S
I
```

93	70	0.007	1.770	5	S I
93	80	0.007	1.770	5	S I
94	20	0.014	1.530	5	S I
94	30	0.014	1.530	5	S I
94	40	0.014	1.530	5	S I
95	50	0.019	1.420	5	D I
95	60	0.019	1.420	5	D I
95	70	0.019	1.420	5	D I
95	80	0.019	1.420	5	D I
96	20	0.006	1.730	5	D I
96	30	0.006	1.730	5	D I
96	40	0.006	1.730	5	D I

Junction Only Accident Change Factors
Base Year
2000

Classification	Speed Limit (mph)	Beta Factor
Major	20	0.991
Major	30	0.991
Major	40	0.991
Major	50	0.984
Major	60	0.984
Major	70	0.984
Major	80	0.984
Minor	20	0.976
Minor	30	0.976
Minor	40	0.976
Minor	50	0.996
Minor	60	0.996
Minor	70	0.996
Minor	80	0.996

Junction Only Accident Beta Factor Changes over Time

Range of Years	Change to Beta Factor
1995-2010	1.000
2011-2020	0.500
2021-2030	0.250
2031-2144	0.000

Junction Only Casualty Rates
Base Year

2000

Road Type	Casualties per P.I.A.		
	Fatal	Serious	Slight
1	0.0265	0.2413	1.355
2	0.0075	0.1350	1.144
3	0.0265	0.2413	1.355
4	0.0075	0.1350	1.144
5	0.0295	0.2793	1.459
6	0.0062	0.1292	1.244
7	0.0295	0.2793	1.459
8	0.0062	0.1292	1.244
9	0.0295	0.2793	1.459
10	0.0062	0.1292	1.244
11	0.0295	0.2793	1.459
12	0.0062	0.1292	1.244
13	0.0265	0.2413	1.355
14	0.0075	0.1350	1.144
15	0.0265	0.2413	1.355
16	0.0075	0.1350	1.144
17	0.0295	0.2793	1.459
18	0.0062	0.1292	1.244
19	0.0295	0.2793	1.459
20	0.0062	0.1292	1.244
21	0.0295	0.2793	1.459
22	0.0062	0.1292	1.244
23	0.0295	0.2793	1.459
24	0.0062	0.1292	1.244
25	0.0265	0.2413	1.355
26	0.0075	0.1350	1.144
27	0.0265	0.2413	1.355
28	0.0075	0.1350	1.144
29	0.0295	0.2793	1.459
30	0.0062	0.1292	1.244
31	0.0295	0.2793	1.459
32	0.0062	0.1292	1.244
33	0.0295	0.2793	1.459
34	0.0062	0.1292	1.244
35	0.0295	0.2793	1.459
36	0.0062	0.1292	1.244
37	0.0092	0.1631	1.444
38	0.0064	0.1157	1.214
39	0.0092	0.1631	1.444
40	0.0064	0.1157	1.214
41	0.0095	0.1423	1.467
42	0.0061	0.1177	1.253
43	0.0095	0.1423	1.467
44	0.0061	0.1177	1.253
45	0.0095	0.1423	1.467
46	0.0061	0.1177	1.253
47	0.0095	0.1423	1.467
48	0.0061	0.1177	1.253
49	0.0060	0.1019	1.214
50	0.0027	0.0806	1.163
51	0.0060	0.1019	1.214

52	0.0027	0.0806	1.163
53	0.0060	0.1019	1.214
54	0.0027	0.0806	1.163
55	0.0060	0.1019	1.214
56	0.0027	0.0806	1.163
57	0.0060	0.1019	1.214
58	0.0027	0.0806	1.163
59	0.0060	0.1019	1.214
60	0.0027	0.0806	1.163
61	0.0060	0.1019	1.214
62	0.0027	0.0806	1.163
63	0.0060	0.1019	1.214
64	0.0027	0.0806	1.163
65	0.0060	0.1019	1.214
66	0.0027	0.0806	1.163
67	0.0060	0.1019	1.214
68	0.0027	0.0806	1.163
69	0.0060	0.1019	1.214
70	0.0027	0.0806	1.163
71	0.0060	0.1019	1.214
72	0.0027	0.0806	1.163
73	0.0060	0.1019	1.214
74	0.0028	0.0965	1.182
75	0.0060	0.1019	1.214
76	0.0028	0.0965	1.182
77	0.0060	0.1019	1.214
78	0.0028	0.0965	1.182
79	0.0060	0.1019	1.214
80	0.0028	0.0965	1.182
81	0.0060	0.1019	1.214
82	0.0028	0.0965	1.182
83	0.0060	0.1019	1.214
84	0.0028	0.0965	1.182
85	0.0039	0.0703	1.258
86	0.0031	0.0705	1.221
87	0.0039	0.0703	1.258
88	0.0031	0.0705	1.221
89	0.0039	0.0703	1.258
90	0.0031	0.0705	1.221
91	0.0039	0.0703	1.258
92	0.0031	0.0705	1.221
93	0.0039	0.0703	1.258
94	0.0031	0.0705	1.221
95	0.0039	0.0703	1.258
96	0.0031	0.0705	1.221

Junction Only Casualty Change Factors

Base Year

2000

Classification	Speed Limit (mph)	Beta Factor		
		Fatal	Serious	Slight
Major	20	0.949	0.962	1.010
Major	30	0.949	0.962	1.010
Major	40	0.949	0.962	1.010

Major	50	0.961	0.959	1.011
Major	60	0.961	0.959	1.011
Major	70	0.961	0.959	1.011
Major	80	0.961	0.959	1.011
Minor	20	0.968	0.958	1.006
Minor	30	0.968	0.958	1.006
Minor	40	0.968	0.958	1.006
Minor	50	0.976	0.972	1.011
Minor	60	0.976	0.972	1.011
Minor	70	0.976	0.972	1.011
Minor	80	0.976	0.972	1.011

Junction Only Casualty Beta Factor Changes over Time

Range of Years	Change to Beta Factor
1995-2010	1.000
2011-2144	0.000

```
*************************************************************************
*                                                                       *
*        CCC      OOO     BBBB      AAA             L         TTTTT      *
*       C   C    O   O    B   B    A   A            L           T        *
*       C        O   O    B   B    A   A            L           T        *
*       C        O   O    BBBB     AAAAA    ----    L           T        *
*       C        O   O    B   B    A   A            L           T        *
*       C   C    O   O    B   B    A   A            L           T        *
*        CCC      OOO     BBBB     A   A            LLLLL       T        *
*                                                                       *
*************************************************************************
*                                                                       *
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Written by Roger Himlin

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[Section 5] Input Data - Parameter File

Input_File_Arundel_BaseVOpt1.cbi.cbo

[Section 1] Summary Statistics

[Section 1.1] Economic Summary

Total Without-Scheme Accident Costs = 571,978.2
Total With-Scheme Accident Costs = 549,759.9

Total Accident Benefits Saved by Scheme = 22,218.2

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 1.2] Accident Summary

Total Without-Scheme Accidents = 11,402.6
Total With-Scheme Accidents = 10,935.7

Total Accidents Saved by Scheme = 466.8

[Section 1.3] Casualty Summary

Total Without-Scheme Casualties (Fatal) = 124.2
(Serious) = 1,501.9
(Slight) = 13,916.0
Total With-Scheme Casualties (Fatal) = 122.2
(Serious) = 1,435.7
(Slight) = 13,373.8

Total Casualties Saved by Scheme (Fatal) = 2.0
(Serious) = 66.1
(Slight) = 542.2

[Section 2] Accident Statistics

[Section 2.1] Link Accident Statistics

----------- Without-Scheme --------- *------------ With-Scheme -----------* *------------- Benefits -------------*
-- Number of Accidents - Total* *-- Number of Accidents -* Total* *-- Number of Accidents -* Total*
Link Name * 2023 2038 Total* Cost* * 2023 2038 Total* Cost* * 2023 2038 Total* Benefit*

Total 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

0.0 0.0 0.0 0.0 0.0 0.0

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 2.2] Junction Accident Statistics

	---------- Without-Scheme ---------			*---------- With-Scheme ----------*			*------------ Benefits ------------*
	-- Number of Accidents -		Total*	*-- Number of Accidents -*		Total*	
Junction Name	* 2023	2038	Total*	Cost*	* 2023	2038	Total*	Benefit*
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 2.3] Combined Link and Junction Accident Statistics

	---------- Without-Scheme ---------			*---------- With-Scheme ----------*			*------------ Benefits ------------*
	-- Number of Accidents -		Total*	*-- Number of Accidents -*		Total*	
Link Name	* 2023	2038	Total*	Cost*	* 2023	2038	Total*	Benefit*
12021192	0.0	0.4	24.3	1,722.7	0.0	0.5	29.8	2,115.2
12081202	0.0	0.0	1.9	136.2	0.0	0.0	2.3	166.3
12421208	0.3	3.2	195.2	9,108.9	0.3	4.0	241.2	11,240.8
74701242	0.1	0.8	50.0	2,333.6	0.1	1.0	57.8	2,693.1
100011276	0.0	0.2	13.7	639.6	0.0	0.2	10.1	469.6
12941282	0.0	0.3	17.1	794.7	0.0	0.2	12.4	579.0
100081316	0.0	0.1	8.9	491.1	0.0	0.1	7.3	402.2
95521316	0.1	0.9	54.0	3,838.6	0.1	0.8	48.3	3,434.7
100321318	0.0	0.2	11.9	553.5	0.0	0.1	7.4	346.6
101241340	0.1	0.7	43.2	2,013.8	0.1	0.8	48.4	2,254.8
13061344	0.0	0.1	6.9	322.0	0.0	0.2	11.3	528.0
13401394	0.1	1.2	72.3	3,371.4	0.1	1.3	81.6	3,803.4

0.0	-0.1	-5.6	-392.5				
0.0	0.0	-0.4	-30.1				
0.0	-0.8	-45.9	-2,132.0				
0.0	-0.1	-7.8	-359.5				
0.0	0.1	3.7	170.0				
0.0	0.1	4.6	215.7				
0.0	0.0	1.6	88.9				
0.0	0.1	5.7	403.9				
0.0	0.1	4.5	206.9				
0.0	-0.1	-5.2	-241.0				
0.0	-0.1	-4.4	-205.9				
0.0	-0.2	-9.3	-432.0				

100241396	0.0	0.1	9.0	419.8	0.0	0.1	6.0	279.1	0.0	0.1	3.0	140.7
13961410	0.0	0.2	14.5	673.7	0.0	0.2	9.4	436.5	0.0	0.1	5.1	237.2
14201412	0.0	0.2	9.3	434.2	0.0	0.1	7.8	362.0	0.0	0.0	1.6	72.2
76481412	0.0	0.0	1.6	74.4	0.0	0.0	2.9	134.1	0.0	0.0	-1.3	-59.7
14121416	0.0	0.1	3.9	180.8	0.0	0.1	3.5	161.4	0.0	0.0	0.4	19.4
14241418	0.0	0.1	4.9	226.8	0.0	0.1	4.2	197.5	0.0	0.0	0.6	29.3
14361420	0.0	0.1	8.3	389.0	0.0	0.1	7.6	355.6	0.0	0.0	0.7	33.4
14221420	0.2	2.2	135.4	6,314.8	0.2	1.8	110.3	5,147.9	0.0	0.4	25.1	1,166.9
14281422	0.1	1.4	82.5	3,847.4	0.1	1.2	72.6	3,389.8	0.0	0.2	9.8	457.6
14401424	0.0	0.0	0.3	15.9	0.0	0.0	0.1	5.5	0.0	0.0	0.2	10.3
14181428	0.0	0.1	8.0	375.1	0.0	0.1	7.3	340.6	0.0	0.0	0.7	34.5
16021436	0.1	0.8	47.9	2,230.3	0.1	0.6	39.1	1,824.3	0.0	0.1	8.7	406.0
14501440	0.0	0.1	7.3	342.0	0.0	0.1	6.6	310.2	0.0	0.0	0.7	31.8
17661450	0.0	0.5	28.2	1,311.2	0.0	0.2	9.8	458.8	0.0	0.3	18.4	852.4
14561454	0.0	0.1	3.7	172.6	0.0	0.1	3.4	158.4	0.0	0.0	0.3	14.3
14161456	0.2	1.9	115.9	5,407.7	0.2	1.7	103.3	4,822.8	0.0	0.2	12.6	584.9
15221490	0.1	0.5	30.9	1,440.4	0.0	0.4	25.9	1,209.3	0.0	0.1	5.0	231.1
16181490	0.0	0.3	19.7	915.1	0.0	0.6	38.4	1,789.4	0.0	-0.3	-18.7	-874.4
15161498	0.2	1.9	115.6	5,391.9	0.2	1.7	103.0	4,806.2	0.0	0.2	12.6	585.7
101261502	0.1	1.3	81.7	3,808.3	0.1	1.5	90.1	4,199.8	0.0	-0.1	-8.4	-391.5
16041522	0.1	0.8	46.4	2,164.1	0.1	0.6	38.9	1,816.8	0.0	0.1	7.5	347.2
15461548	0.0	0.1	4.5	211.8	0.0	0.1	4.8	225.5	0.0	0.0	-0.3	-13.7
15641554	0.0	0.0	2.0	92.3	0.0	0.0	2.3	106.6	0.0	0.0	-0.3	-14.3
60151556	0.0	0.5	32.4	1,505.0	0.0	0.9	51.6	2,400.7	0.0	-0.3	-19.2	-895.6
15481562	0.0	0.0	1.0	46.0	0.0	0.0	1.3	59.7	0.0	0.0	-0.3	-13.7
15681564	0.0	0.1	5.5	255.4	0.0	0.1	5.8	272.2	0.0	0.0	-0.4	-16.8
17441568	0.0	0.1	5.8	412.4	0.0	0.2	9.6	682.5	0.0	-0.1	-3.8	-270.1

15621568	0.0	0.1	8.5	398.5	0.0	0.1	9.0	418.0	0.0	0.0	-0.4	-19.5	
15581580	0.1	0.8	46.1	2,152.0	0.1	0.9	52.7	2,458.1	0.0	-0.1	-6.6	-306.1	
16681602	0.0	0.4	26.7	1,243.5	0.0	0.3	21.0	977.2	0.0	0.1	5.7	266.3	
74781604	0.0	0.5	29.5	1,375.3	0.0	0.4	24.7	1,154.6	0.0	0.1	4.7	220.7	
15561618	0.0	0.6	39.0	1,812.3	0.1	1.1	67.9	3,169.9	-0.1	-0.5	-29.0	-1,357.6	
18541622	0.0	0.1	3.7	174.0	0.0	0.4	21.8	1,011.3	0.0	-0.3	-18.0	-837.2	
79081696	0.1	0.5	32.0	1,491.5	0.1	0.7	44.2	2,061.9	0.0	-0.2	-12.3	-570.4	
17681706	0.0	0.4	25.1	1,167.2	0.0	0.3	19.2	895.4	0.0	0.1	5.8	271.8	
95251744	0.1	1.4	85.1	3,966.8	0.1	1.6	98.3	4,587.1	0.0	-0.2	-13.3	-620.4	
15681744	0.0	0.2	9.4	666.4	0.0	0.2	12.7	898.8	0.0	-0.1	-3.3	-232.4	
17801758	0.0	0.1	7.5	350.2	0.0	0.2	9.2	429.7	0.0	0.0	-1.7	-79.4	
18041764	0.0	0.3	19.4	905.3	0.0	0.2	14.7	687.5	0.0	0.1	4.7	217.8	
17581764	0.0	0.2	12.5	583.6	0.0	0.3	16.1	752.5	0.0	-0.1	-3.6	-169.0	
60521766	0.0	0.0	1.0	73.4	0.0	0.0	0.4	25.7	0.0	0.0	0.7	47.7	
17941768	0.0	0.5	33.2	1,547.5	0.0	0.4	25.2	1,175.6	0.0	0.1	8.0	371.9	
17061768	0.0	0.3	17.4	808.3	0.0	0.2	12.6	589.1	0.0	0.1	4.7	219.2	
60521794	0.0	0.1	3.2	150.1	0.0	0.0	2.4	113.0	0.0	0.0	0.8	37.1	
17681794	0.0	0.4	23.5	1,093.2	0.0	0.3	17.1	796.8	0.0	0.1	6.4	296.4	
18161804	0.0	0.1	7.2	335.4	0.0	0.1	6.2	288.6	0.0	0.0	1.0	46.8	
18341816	0.0	0.0	2.9	136.1	0.0	0.0	2.5	117.1	0.0	0.0	0.4	19.0	
18341828	0.0	0.0	1.8	85.0	0.0	0.0	2.1	96.1	0.0	0.0	-0.2	-11.1	
19881844	0.1	0.8	47.6	2,222.1	0.1	0.7	40.5	1,891.3	0.0	0.1	7.1	330.8	
76441848	0.0	0.3	17.5	1,237.6	0.0	0.2	11.4	810.0	0.0	0.1	6.0	427.6	
79361854	0.0	0.1	6.5	463.0	0.0	0.2	12.7	899.6	0.0	-0.1	-6.2	-436.6	
18781874	0.0	0.0	1.8	84.6	0.0	0.0	2.2	102.2	0.0	0.0	-0.4	-17.6	
76181874	0.0	0.2	11.0	512.5	0.0	0.3	16.2	753.1	0.0	-0.1	-5.2	-240.6	
101691878	0.0	0.1	5.3	248.2	0.0	0.2	10.5	488.9	0.0	-0.1	-5.2	-240.7	

19601956	0.0	0.1	8.0	372.3	0.0	0.1	8.5	397.3	0.0	0.0	-0.5	-25.0			
95251960	0.1	1.1	67.3	3,134.9	0.1	1.4	84.9	3,952.4	0.0	-0.3	-17.6	-817.5			
19561962	0.0	0.1	4.5	208.9	0.0	0.1	5.3	246.2	0.0	0.0	-0.8	-37.2			
19741970	0.0	0.1	4.4	203.3	0.0	0.1	4.7	218.9	0.0	0.0	-0.3	-15.6			
19621974	0.0	0.0	1.7	78.4	0.0	0.0	1.4	65.5	0.0	0.0	0.3	12.9			
90161994	0.0	0.1	7.2	398.2	0.0	0.1	8.6	475.5	0.0	0.0	-1.4	-77.3			
19621994	0.1	0.7	44.8	2,088.1	0.1	1.2	69.8	3,258.6	0.0	-0.4	-25.1	-1,170.5			
19841996	0.1	1.3	77.5	3,617.5	0.1	1.4	82.3	3,841.8	0.0	-0.1	-4.8	-224.3			
20842002	0.2	2.3	141.3	6,594.1	0.2	2.5	152.6	7,120.6	0.0	-0.2	-11.3	-526.5			
20722012	0.0	0.3	17.2	952.2	0.0	0.5	27.9	1,540.9	0.0	-0.2	-10.7	-588.7			
95192016	0.1	1.2	73.2	3,418.3	0.1	1.3	78.0	3,643.5	0.0	-0.1	-4.8	-225.3			
20482030	0.0	0.1	5.0	234.1	0.0	0.1	5.4	253.0	0.0	0.0	-0.4	-18.9			
19742030	0.0	0.2	10.4	483.6	0.0	0.1	7.8	361.9	0.0	0.0	2.6	121.7			
20302034	0.0	0.0	2.3	106.3	0.0	0.0	1.7	79.5	0.0	0.0	0.6	26.8			
20122034	0.0	0.2	10.6	754.2	0.0	0.3	18.2	1,296.2	0.0	-0.1	-7.6	-542.0			
100582038	0.1	0.9	55.3	2,582.6	0.1	1.1	66.3	3,092.2	0.0	-0.2	-10.9	-509.6			
20442038	0.1	1.0	62.4	2,911.0	0.1	1.1	67.8	3,163.1	0.0	-0.1	-5.4	-252.1			
20382044	0.1	1.0	63.3	2,953.2	0.1	1.2	71.8	3,347.9	0.0	-0.1	-8.4	-394.7			
20342046	0.0	0.0	1.9	89.6	0.0	0.0	2.4	110.3	0.0	0.0	-0.4	-20.7			
20462058	0.0	0.1	4.4	203.0	0.0	0.1	5.4	249.8	0.0	0.0	-1.0	-46.8			
20962066	0.1	0.6	33.6	1,857.4	0.1	0.6	37.5	2,070.9	0.0	-0.1	-3.9	-213.5			
19942070	0.1	0.7	42.0	2,318.3	0.1	0.9	56.2	3,105.8	0.0	-0.2	-14.3	-787.5			
21102072	0.1	1.0	59.3	3,276.8	0.1	1.6	96.2	5,314.6	-0.1	-0.6	-36.9	-2,037.9			
90152076	0.0	0.1	6.7	367.6	0.0	0.2	10.4	572.5	0.0	-0.1	-3.7	-204.9			
73722084	0.2	2.1	129.4	6,041.6	0.2	2.3	139.8	6,524.0	0.0	-0.2	-10.4	-482.4			
76362086	0.1	0.7	40.1	1,868.4	0.1	0.9	53.7	2,503.9	0.0	-0.2	-13.6	-635.5			
95092086	0.0	0.1	5.2	244.6	0.0	0.1	5.7	265.1	0.0	0.0	-0.4	-20.5			

21742088	0.0	0.2	9.8	454.1	0.0	0.3	21.1	982.1	0.0	-0.2	-11.4	-528.0
95022088	0.0	0.1	6.7	313.6	0.0	0.5	28.8	1,335.6	0.0	-0.4	-22.0	-1,022.0
100562096	0.0	0.6	34.0	1,588.7	0.1	0.6	38.0	1,771.3	0.0	-0.1	-3.9	-182.6
20762096	0.0	0.5	30.3	1,672.7	0.1	0.7	41.3	2,280.8	0.0	-0.2	-11.0	-608.1
95032106	0.1	0.8	45.6	2,518.7	0.1	1.1	65.7	3,631.7	0.0	-0.3	-20.2	-1,113.0
21062108	0.0	0.1	8.2	384.4	0.0	0.0	1.9	90.3	0.0	0.1	6.3	294.1
21302110	0.1	0.6	33.5	1,852.0	0.1	1.0	60.1	3,322.6	0.0	-0.4	-26.6	-1,470.6
95052110	0.0	0.8	50.5	2,346.7	0.0	0.0	0.0	0.0	0.0	0.8	50.5	2,346.7
21082112	0.0	0.1	3.5	164.2	0.0	0.0	1.8	81.5	0.0	0.0	1.8	82.7
21482130	0.0	0.2	12.9	602.2	0.0	0.0	2.5	117.7	0.0	0.2	10.4	484.5
21402148	0.0	0.0	0.4	16.8	0.0	0.0	1.6	76.3	0.0	0.0	-1.3	-59.5
74762170	0.0	0.2	11.2	520.3	0.0	0.2	13.5	628.9	0.0	0.0	-2.3	-108.6
22162174	0.0	0.0	2.7	189.4	0.0	0.0	1.9	136.7	0.0	0.0	0.7	52.7
20882174	0.0	0.0	0.0	0.1	0.0	0.0	18.8	828.4	0.0	0.0	-18.8	-828.4
73712182	0.0	0.2	10.4	487.2	0.0	0.2	11.2	521.0	0.0	0.0	-0.7	-33.7
22242198	0.1	1.1	64.6	3,012.8	0.0	0.2	9.3	434.6	0.1	0.9	55.2	2,578.2
23062216	0.0	0.6	38.3	1,784.1	0.0	0.5	27.6	1,287.2	0.0	0.2	10.7	496.9
22482218	0.0	0.0	2.4	132.6	0.0	0.0	2.6	145.9	0.0	0.0	-0.2	-13.3
74742220	0.0	0.3	18.9	880.8	0.0	0.5	30.2	1,405.2	0.0	-0.2	-11.2	-524.4
60152220	0.2	2.0	119.9	5,594.3	0.2	2.4	145.8	6,803.0	-0.1	-0.4	-25.9	-1,208.7
22702224	0.2	1.7	100.7	4,699.2	0.0	0.2	13.1	609.6	0.1	1.4	87.6	4,089.7
21982224	0.1	0.9	55.3	2,581.5	0.0	0.1	6.2	286.3	0.1	0.8	49.2	2,295.3
22462244	0.0	0.1	3.8	179.0	0.0	0.1	3.4	156.3	0.0	0.0	0.5	22.7
90092246	0.0	0.4	21.9	1,018.6	0.0	0.3	17.2	803.5	0.0	0.1	4.6	215.1
22442252	0.0	0.1	4.4	206.6	0.0	0.1	3.7	174.5	0.0	0.0	0.7	32.1
22522260	0.0	0.1	4.2	197.4	0.0	0.1	3.7	172.7	0.0	0.0	0.5	24.7
95272270	0.1	1.0	62.9	2,933.8	0.0	0.0	0.5	23.2	0.1	1.0	62.4	2,910.6

75742270	0.0	0.5	27.8	1,296.3	0.0	0.1	9.0	416.7	0.0	0.3	18.9	879.7
22242270	0.1	1.4	82.5	3,848.1	0.0	0.1	8.7	406.5	0.1	1.2	73.7	3,441.6
22802272	0.0	0.3	15.8	735.3	0.0	0.2	13.8	643.1	0.0	0.0	2.0	92.3
22722274	0.0	0.1	4.7	217.1	0.0	0.1	4.1	190.9	0.0	0.0	0.6	26.2
76782280	0.1	1.2	75.4	5,357.6	0.1	1.1	65.9	4,684.7	0.0	0.2	9.5	672.9
22602280	0.0	0.3	18.9	881.9	0.0	0.3	16.5	767.4	0.0	0.0	2.5	114.4
23082306	0.0	0.1	6.0	332.5	0.0	0.1	7.6	422.2	0.0	0.0	-1.6	-89.7
60472308	0.0	0.0	0.9	44.2	0.0	0.0	1.9	90.9	0.0	0.0	-1.0	-46.7
60482308	0.0	0.0	0.9	48.2	0.0	0.0	1.0	55.9	0.0	0.0	-0.1	-7.7
23742310	0.0	0.4	23.8	1,315.4	0.1	0.5	29.0	1,602.7	0.0	-0.1	-5.2	-287.3
24202310	0.0	0.2	12.7	588.8	0.1	0.6	38.7	1,802.5	0.0	-0.4	-26.0	-1,213.7
60472312	0.0	0.0	0.8	41.7	0.0	0.0	1.0	53.6	0.0	0.0	-0.2	-11.9
95272316	0.1	1.0	62.2	2,904.8	0.2	2.2	134.4	6,266.1	-0.1	-1.2	-72.2	-3,361.3
23462324	0.0	0.6	37.0	1,723.3	0.0	0.4	26.6	1,242.0	0.0	0.2	10.4	481.3
23062324	0.0	0.3	19.8	1,096.2	0.1	0.5	27.5	1,522.1	0.0	-0.1	-7.7	-425.9
23582346	0.0	0.1	5.7	267.6	0.0	0.1	5.3	247.8	0.0	0.0	0.4	19.8
23802356	0.0	0.4	25.3	1,397.3	0.0	0.4	23.6	1,303.6	0.0	0.0	1.7	93.8
23562362	0.0	0.1	4.0	187.7	0.0	0.1	3.8	178.9	0.0	0.0	0.2	8.8
23742372	0.0	0.0	2.2	103.4	0.0	0.0	1.2	53.6	0.0	0.0	1.1	49.9
23242372	0.0	0.1	6.8	378.1	0.0	0.1	8.4	463.5	0.0	0.0	-1.5	-85.4
23822374	0.0	0.1	5.1	237.1	0.0	0.1	4.5	210.1	0.0	0.0	0.6	27.0
23722378	0.0	0.1	4.7	217.2	0.0	0.1	4.3	202.0	0.0	0.0	0.3	15.3
23842382	0.0	0.1	5.3	245.2	0.0	0.1	4.8	224.1	0.0	0.0	0.5	21.0
24082382	0.0	0.4	25.2	1,787.5	0.0	0.2	13.8	977.7	0.0	0.2	11.4	809.8
23782384	0.0	0.0	1.3	61.8	0.0	0.0	1.1	51.7	0.0	0.0	0.2	10.1
23922390	0.2	1.8	109.5	5,114.5	0.2	2.6	156.7	7,312.2	-0.1	-0.8	-47.1	-2,197.7
23902392	0.2	2.0	119.0	5,555.9	0.2	2.8	171.8	8,016.4	0.0	-0.9	-52.9	-2,460.5

23122392		0.1	0.6	38.6	2,132.7	0.1	0.9	55.2	3,049.0	0.0	-0.3	-16.6	-916.3
76382406		0.0	0.2	11.4	812.4	0.0	0.3	16.0	1,134.8	0.0	-0.1	-4.5	-322.4
24202408		0.0	0.2	10.7	755.3	0.0	0.1	5.9	417.2	0.0	0.1	4.8	338.1
23822408		0.0	0.4	27.0	1,920.4	0.0	0.3	16.7	1,188.3	0.0	0.2	10.3	732.1
75722416		0.0	0.3	20.2	1,433.8	0.0	0.5	29.4	2,087.5	0.0	-0.2	-9.2	-653.7
74842420		0.0	0.0	0.4	19.3	0.0	0.2	14.8	685.2	0.0	-0.2	-14.3	-665.9
24362420		0.0	0.8	50.6	2,355.1	0.0	0.7	44.7	2,079.3	0.0	0.1	5.9	275.9
24082420		0.0	0.2	11.4	812.7	0.0	0.1	7.1	506.6	0.0	0.1	4.3	306.1
24782436		0.0	0.2	11.6	638.1	0.0	0.2	10.2	562.2	0.0	0.0	1.4	75.9
24202436		0.1	0.8	48.5	2,265.8	0.1	0.7	39.4	1,837.0	0.0	0.2	9.2	428.9
74862478		0.1	1.2	71.1	5,042.0	0.0	1.0	62.7	4,442.5	0.0	0.1	8.4	599.4
24362478		0.0	0.2	12.3	679.8	0.0	0.2	9.3	516.1	0.0	0.0	3.0	163.8
24922482		0.0	0.0	1.3	58.9	0.0	0.7	45.1	2,094.3	0.0	-0.7	-43.8	-2,035.4
74822492		0.0	0.0	1.7	81.1	0.0	0.3	19.5	907.3	0.0	-0.3	-17.8	-826.3
24062516		0.1	0.8	50.4	3,582.8	0.1	1.2	72.8	5,170.0	0.0	-0.4	-22.3	-1,587.2
25162520		0.0	0.1	3.8	179.5	0.0	0.1	4.4	206.8	0.0	0.0	-0.6	-27.4
25202536		0.0	0.1	7.0	387.0	0.0	0.1	7.9	437.5	0.0	0.0	-0.9	-50.5
25762546		0.3	3.2	194.3	9,060.0	0.2	2.8	170.7	7,959.6	0.0	0.4	23.6	1,100.4
76782546		0.1	1.1	68.5	4,857.0	0.1	1.0	59.5	4,226.6	0.0	0.1	8.9	630.4
25362568		0.0	0.2	14.6	807.1	0.0	0.3	16.5	912.4	0.0	0.0	-1.9	-105.3
90052576		0.3	3.5	212.2	9,896.6	0.3	3.0	184.4	8,602.4	0.0	0.5	27.8	1,294.2
25462576		0.2	3.6	215.4	10,034.2	0.2	3.2	190.7	8,885.8	0.0	0.4	24.7	1,148.5
95392592		0.0	0.0	1.7	91.4	0.0	0.0	1.3	69.6	0.0	0.0	0.4	21.9
25982596		0.0	0.1	7.5	348.5	0.0	0.1	6.9	323.3	0.0	0.0	0.5	25.2
75702596		0.0	0.4	27.1	1,924.4	0.0	0.4	23.3	1,650.3	0.0	0.1	3.8	274.1
26422598		0.0	0.6	39.0	2,766.0	0.0	0.8	50.3	3,564.5	0.0	-0.2	-11.3	-798.5
25922598		0.0	0.2	14.6	683.6	0.0	0.2	12.6	585.8	0.0	0.0	2.1	97.8

26162610	0.0	0.4	26.3	1,226.0	0.0	0.4	22.6	1,051.3	0.0	0.1	3.7	174.7			
75702610	0.0	0.4	22.2	1,575.5	0.0	0.3	15.6	1,107.7	0.0	0.1	6.6	467.9			
26342616	0.0	0.6	38.8	2,748.0	0.0	0.5	32.9	2,329.9	0.0	0.1	5.8	418.1			
26102616	0.0	0.4	24.5	1,141.6	0.0	0.3	17.2	802.6	0.0	0.1	7.3	339.0			
75762634	0.1	1.0	57.9	2,695.4	0.0	0.8	49.2	2,285.5	0.0	0.1	8.7	409.9			
26162634	0.1	0.6	38.2	2,709.8	0.0	0.5	27.3	1,937.7	0.0	0.2	10.9	772.1			
90052638	0.1	1.9	114.6	5,337.5	0.1	1.6	95.5	4,451.7	0.0	0.3	19.1	885.8			
26382640	0.0	0.1	4.9	346.1	0.0	0.1	4.1	289.1	0.0	0.0	0.8	57.0			
27022642	0.0	0.2	14.7	1,040.8	0.0	0.3	18.9	1,341.3	0.0	-0.1	-4.2	-300.5			
26902676	0.0	0.6	38.3	1,782.5	0.0	0.5	32.5	1,511.4	0.0	0.1	5.8	271.1			
75762676	0.1	0.8	51.4	2,396.6	0.0	0.6	36.8	1,713.9	0.0	0.2	14.6	682.7			
60362690	0.4	7.0	425.1	19,791.6	0.2	6.0	361.0	16,781.6	0.2	1.1	64.1	3,010.1			
26762690	0.0	0.6	37.7	1,757.5	0.0	0.4	27.0	1,256.9	0.0	0.2	10.7	500.7			
27142706	0.1	1.1	65.9	3,069.5	0.1	0.9	54.5	2,541.7	0.0	0.2	11.4	527.8			
27102708	0.0	0.1	5.3	248.3	0.0	0.1	4.9	228.2	0.0	0.0	0.4	20.1			
75882710	0.1	1.4	84.5	3,933.9	0.1	1.2	69.9	3,257.5	0.0	0.2	14.6	676.4			
27082712	0.0	0.1	5.0	235.1	0.0	0.1	4.1	190.3	0.0	0.0	1.0	44.8			
25682712	0.1	0.7	45.1	2,492.8	0.1	0.8	51.0	2,818.0	0.0	-0.1	-5.9	-325.2			
27282714	0.1	2.0	119.4	5,562.7	0.1	1.6	98.9	4,607.9	0.0	0.3	20.5	954.8			
27122716	0.0	0.0	2.9	132.9	0.0	0.0	2.7	126.4	0.0	0.0	0.1	6.5			
27222720	0.0	0.1	5.9	273.9	0.0	0.1	5.4	253.2	0.0	0.0	0.4	20.7			
27262722	0.0	0.0	2.8	130.1	0.0	0.0	2.2	103.6	0.0	0.0	0.6	26.4			
27422722	0.0	0.3	15.2	836.5	0.0	0.2	14.0	771.9	0.0	0.0	1.2	64.6			
73462724	0.0	0.0	2.9	136.2	0.0	0.0	2.1	98.3	0.0	0.0	0.8	37.9			
27162724	0.0	0.1	5.3	249.2	0.0	0.1	5.9	275.0	0.0	0.0	-0.6	-25.8			
26402728	0.4	6.2	376.1	17,515.6	0.4	5.1	306.0	14,261.3	0.0	1.2	70.0	3,254.3			
73462740	0.2	4.8	289.6	13,476.5	0.1	3.7	222.0	10,320.5	0.1	1.1	67.6	3,156.0			

27482740	0.1	0.6	35.1	1,639.3	0.0	0.4	26.0	1,213.3	0.0	0.2	9.1	426.0			
28342742	0.1	2.1	124.5	6,874.4	0.1	1.9	116.8	6,449.0	0.0	0.1	7.7	425.3			
28162744	0.0	1.1	64.6	3,004.5	0.0	0.7	42.5	1,976.2	0.0	0.4	22.0	1,028.3			
27542748	0.0	0.3	17.9	837.1	0.0	0.2	13.2	615.0	0.0	0.1	4.8	222.1			
75782750	0.0	0.2	11.2	792.6	0.0	0.2	9.5	672.0	0.0	0.0	1.7	120.6			
60362750	0.0	0.4	27.1	1,921.7	0.0	0.3	19.4	1,374.3	0.0	0.1	7.7	547.4			
27642754	0.0	0.3	20.6	960.4	0.0	0.2	15.1	705.6	0.0	0.1	5.5	254.8			
27662762	0.1	0.8	51.2	2,386.0	0.0	0.6	36.6	1,706.3	0.0	0.2	14.6	679.7			
27642762	0.0	0.1	6.7	312.3	0.0	0.1	5.4	248.8	0.0	0.0	1.4	63.4			
27702764	0.0	0.1	6.7	312.9	0.0	0.0	2.3	105.9	0.0	0.1	4.5	207.0			
27622764	0.0	0.1	6.1	282.3	0.0	0.1	4.3	201.9	0.0	0.0	1.7	80.4			
27622766	0.0	0.9	55.6	2,586.3	0.0	0.7	45.2	2,103.4	0.0	0.2	10.3	482.8			
75782766	0.1	0.7	39.5	1,842.8	0.0	0.5	28.3	1,317.8	0.0	0.2	11.3	524.9			
75802770	0.0	0.2	11.6	539.9	0.0	0.0	2.8	132.4	0.0	0.1	8.8	407.4			
27642770	0.0	0.2	12.7	588.9	0.0	0.1	8.7	403.2	0.0	0.1	4.0	185.7			
27402792	0.0	0.0	24.8	1,089.9	0.0	0.1	7.9	365.8	0.0	-0.1	16.9	724.1			
75802792	0.0	0.3	20.7	961.4	0.0	0.2	14.2	658.3	0.0	0.1	6.5	303.1			
28042808	0.0	0.1	8.5	395.9	0.0	0.1	5.7	263.3	0.0	0.0	2.8	132.5			
28082816	0.0	0.6	34.4	1,600.8	0.0	0.0	18.7	821.0	0.0	0.6	15.7	779.8			
22206015	0.0	0.5	29.6	2,094.4	0.0	0.8	47.1	3,341.5	0.0	-0.3	-17.6	-1,247.1			
15566015	0.1	0.6	34.5	1,611.2	0.1	0.7	42.0	1,959.3	0.0	-0.1	-7.5	-348.1			
16226016	0.0	0.0	0.8	38.7	0.0	0.0	2.9	135.0	0.0	0.0	-2.1	-96.4			
13446018	0.0	0.0	2.0	94.0	0.0	0.1	4.0	185.6	0.0	0.0	-2.0	-91.7			
27506036	0.0	0.5	27.5	1,948.9	0.0	0.4	23.3	1,652.4	0.0	0.1	4.1	296.5			
26906036	0.6	6.9	418.6	19,514.0	0.4	4.9	299.4	13,955.1	0.2	2.0	119.2	5,558.9			
23106047	0.0	0.1	5.1	280.3	0.0	0.1	7.0	389.5	0.0	0.0	-2.0	-109.2			
95006048	0.0	0.4	24.2	1,335.9	0.0	0.5	29.7	1,640.7	0.0	-0.1	-5.5	-304.8			

60506049	0.0	0.0	1.6	75.1	0.0	0.0	0.6	26.4	0.0	0.0	1.0	48.7			
24166049	0.0	0.3	18.2	849.5	0.0	0.0	1.2	55.1	0.0	0.3	17.0	794.3			
60516050	0.0	0.0	2.1	98.0	0.0	0.0	0.9	43.9	0.0	0.0	1.2	54.1			
75746051	0.0	0.3	17.8	825.6	0.0	0.1	8.0	369.7	0.0	0.2	9.8	456.0			
60496051	0.0	0.1	4.1	190.5	0.0	0.0	0.3	14.7	0.0	0.1	3.8	175.8			
18486052	0.0	0.1	4.7	332.4	0.0	0.1	3.1	217.5	0.0	0.0	1.6	114.8			
27407346	0.4	3.6	218.6	10,204.4	0.3	2.6	157.7	7,365.5	0.1	1.0	60.9	2,838.8			
27167346	0.0	0.1	4.7	218.6	0.0	0.1	3.6	167.4	0.0	0.0	1.1	51.2			
22187371	0.0	0.2	13.7	757.0	0.0	0.2	14.6	809.4	0.0	0.0	-1.0	-52.4			
73767372	0.0	0.1	7.6	354.1	0.0	0.1	8.2	382.2	0.0	0.0	-0.6	-28.1			
73777376	0.0	0.1	4.3	198.7	0.0	0.1	4.5	212.0	0.0	0.0	-0.3	-13.3			
21827377	0.0	0.1	4.2	195.1	0.0	0.1	4.5	208.2	0.0	0.0	-0.3	-13.1			
12507470	0.1	0.7	45.3	2,113.9	0.1	0.9	52.3	2,439.6	0.0	-0.1	-7.0	-325.7			
22207474	0.0	0.3	20.2	943.1	0.0	0.4	24.6	1,146.9	0.0	-0.1	-4.4	-203.8			
21747476	0.0	0.2	14.7	682.7	0.0	0.3	17.6	818.6	0.0	0.0	-2.9	-135.9			
74797478	0.1	0.8	49.3	2,300.6	0.1	0.7	40.8	1,905.6	0.0	0.1	8.5	394.9			
74787479	0.0	0.3	19.8	921.6	0.0	0.5	29.4	1,372.6	0.0	-0.2	-9.6	-451.0			
23807482	0.0	0.0	1.4	63.7	0.0	0.4	21.2	985.5	0.0	-0.3	-19.9	-921.7			
24827484	0.0	0.0	0.5	22.0	0.0	0.3	16.9	783.1	0.0	-0.3	-16.4	-761.1			
95397486	0.1	1.4	86.8	6,154.1	0.0	1.3	76.7	5,433.9	0.0	0.2	10.1	720.2			
24787486	0.1	1.2	75.6	5,372.1	0.1	0.9	57.4	4,078.0	0.0	0.3	18.2	1,294.1			
26107570	0.0	0.4	23.9	1,691.7	0.0	0.3	20.5	1,450.8	0.0	0.1	3.4	241.0			
25967570	0.0	0.4	25.2	1,792.2	0.0	0.3	17.7	1,260.0	0.0	0.1	7.5	532.2			
25947572	0.0	0.5	28.7	2,036.7	0.0	0.6	37.3	2,647.3	0.0	-0.1	-8.7	-610.7			
24167572	0.0	0.2	10.4	742.0	0.0	0.3	16.9	1,200.6	0.0	-0.1	-6.4	-458.6			
60517574	0.0	0.4	24.6	1,145.9	0.0	0.0	1.9	88.3	0.0	0.4	22.7	1,057.6			
22707574	0.0	0.2	13.6	633.3	0.0	0.1	6.2	289.8	0.0	0.1	7.4	343.5			

26347576		0.1	0.9	57.0	2,657.6	0.1	0.7	40.8	1,900.5	0.0	0.3	16.2	757.1		
26767576		0.0	0.9	52.2	2,430.7	0.0	0.7	44.3	2,061.1	0.0	0.1	7.9	369.7		
27507578		0.0	0.2	11.0	781.5	0.0	0.1	7.9	558.9	0.0	0.1	3.1	222.6		
27667578		0.0	0.7	40.1	1,869.0	0.0	0.6	34.1	1,584.7	0.0	0.1	6.1	284.2		
27927580		0.0	0.3	15.2	704.6	0.0	0.1	3.7	172.8	0.0	0.2	11.5	531.7		
27707580		0.0	0.3	15.8	736.7	0.0	0.2	10.9	504.4	0.0	0.1	5.0	232.3		
27067588		0.1	1.2	72.6	3,381.1	0.1	1.0	60.1	2,799.8	0.0	0.2	12.5	581.4		
20447616		0.2	1.9	114.8	5,359.5	0.2	1.7	102.1	4,769.3	0.0	0.2	12.7	590.1		
65027618		0.0	0.2	10.6	492.5	0.0	0.3	16.7	779.0	0.0	-0.1	-6.2	-286.5		
20867636		0.1	0.7	43.1	2,012.2	0.1	0.8	47.6	2,220.2	0.0	-0.1	-4.5	-208.0		
100567636		0.0	0.4	26.1	1,217.4	0.1	0.6	35.0	1,631.5	0.0	-0.1	-8.9	-414.1		
20587638		0.0	0.2	15.0	1,063.9	0.0	0.3	20.3	1,445.9	0.0	-0.1	-5.4	-382.0		
19567644		0.0	0.3	21.0	1,490.1	0.0	0.2	14.9	1,056.2	0.0	0.1	6.1	433.9		
60187648		0.0	0.0	1.2	53.9	0.0	0.0	2.3	106.4	0.0	0.0	-1.1	-52.6		
13067656		0.0	0.2	13.6	634.9	0.0	0.1	8.1	378.9	0.0	0.1	5.5	256.0		
60167672		0.0	0.0	1.1	50.2	0.0	0.1	3.8	175.4	0.0	0.0	-2.7	-125.2		
22807678		0.1	1.3	80.6	5,716.9	0.1	1.2	70.1	4,974.9	0.0	0.2	10.5	742.0		
25467678		0.1	1.1	64.1	4,551.7	0.1	0.9	56.0	3,980.3	0.0	0.1	8.1	571.4		
79097908		0.0	0.1	5.8	271.7	0.0	0.1	8.4	390.0	0.0	0.0	-2.5	-118.4		
18547936		0.0	0.1	7.8	553.0	0.0	0.2	10.7	755.5	0.0	0.0	-2.9	-202.5		
15027944		0.1	1.2	73.5	3,424.8	0.1	1.3	81.2	3,785.3	0.0	-0.1	-7.7	-360.5		
26389005		0.1	1.6	98.1	4,574.2	0.1	1.4	83.8	3,909.3	0.0	0.2	14.3	664.9		
25769005		0.2	4.0	241.6	11,253.8	0.2	3.5	209.9	9,782.3	0.0	0.5	31.7	1,471.5		
22489009		0.0	0.3	15.8	737.0	0.0	0.2	12.5	581.4	0.0	0.1	3.3	155.6		
20169014		0.0	0.1	5.7	264.5	0.0	0.1	6.1	283.0	0.0	0.0	-0.4	-18.5		
20129015		0.0	0.3	17.2	1,220.6	0.0	0.4	26.8	1,900.8	0.0	-0.2	-9.6	-680.2		
20669016		0.0	0.1	6.9	378.8	0.0	0.1	8.2	452.4	0.0	0.0	-1.3	-73.6		

23929500	0.0	0.3	21.0	1,160.7	0.0	0.5	30.3	1,674.6	0.0	-0.2	-9.3	-513.9	
95009501	0.0	0.0	0.0	0.1	0.0	0.0	19.5	859.1	0.0	0.0	-19.5	-859.0	
95019502	0.0	0.0	0.0	0.1	0.0	0.0	19.5	859.1	0.0	0.0	-19.5	-859.0	
20709503	0.1	0.6	38.5	2,126.5	0.1	0.9	53.6	2,962.3	0.0	-0.3	-15.1	-835.9	
100589509	0.1	1.5	93.8	4,375.0	0.1	1.7	102.6	4,786.9	0.0	-0.1	-8.9	-411.9	
20869509	0.0	0.1	4.6	216.3	0.0	0.1	5.8	269.3	0.0	0.0	-1.1	-53.0	
19969519	0.0	0.3	21.1	983.4	0.0	0.4	22.4	1,044.6	0.0	0.0	-1.3	-61.2	
19609525	0.1	1.1	68.2	3,180.7	0.1	1.3	78.8	3,676.0	0.0	-0.2	-10.6	-495.4	
17449525	0.1	1.1	67.3	3,137.7	0.1	1.4	85.0	3,956.2	0.0	-0.3	-17.6	-818.5	
23169527	0.1	1.1	65.3	3,047.0	0.2	2.4	144.6	6,745.9	-0.1	-1.3	-79.4	-3,698.9	
25929539	0.0	0.0	1.6	85.9	0.0	0.0	1.4	75.8	0.0	0.0	0.2	10.0	
74869539	0.1	1.5	92.3	6,554.7	0.1	1.2	70.2	4,987.7	0.0	0.4	22.0	1,567.0	
13169552	0.1	0.8	45.5	3,227.6	0.1	0.6	37.9	2,690.8	0.0	0.1	7.6	536.8	
12509552	0.2	1.7	102.6	4,787.1	0.2	1.5	91.8	4,283.3	0.0	0.2	10.8	503.8	
130010001	0.0	0.1	6.7	311.0	0.0	0.1	4.9	228.3	0.0	0.0	1.8	82.7	
149810008	0.0	0.2	10.2	477.3	0.0	0.2	9.1	425.5	0.0	0.0	1.1	51.9	
141010021	0.0	0.2	11.7	545.9	0.0	0.1	7.3	341.9	0.0	0.1	4.4	204.0	
101541002	0.0	0.0	2.3	107.5	0.0	0.0	1.6	74.7	0.0	0.0	0.7	32.8	
765610032	0.0	0.1	8.3	386.3	0.0	0.1	4.9	229.1	0.0	0.1	3.4	157.2	
763610056	0.0	0.4	22.5	1,049.2	0.0	0.4	24.8	1,157.7	0.0	0.0	-2.3	-108.5	
209610056	0.1	0.7	40.0	1,865.1	0.1	0.9	54.5	2,543.2	0.0	-0.2	-14.5	-678.0	
203810058	0.1	1.2	70.3	3,278.0	0.1	1.3	77.3	3,603.5	0.0	-0.1	-7.0	-325.5	
950910058	0.1	1.5	89.1	4,157.7	0.2	1.8	108.0	5,041.8	0.0	-0.3	-18.9	-884.1	
133210124	0.0	0.5	32.7	1,526.6	0.0	0.6	36.2	1,688.5	0.0	-0.1	-3.5	-161.9	
139410126	0.0	0.2	13.5	630.7	0.0	0.2	15.0	698.5	0.0	0.0	-1.5	-67.8	
135810154	0.0	0.5	30.6	1,428.3	0.0	0.3	20.9	976.1	0.0	0.2	9.7	452.2	
190210169	0.0	0.0	2.7	124.6	0.0	0.1	5.9	274.2	0.0	-0.1	-3.2	-149.7	

761610173	0.1	1.1	67.6	3,151.8	0.1	1.0	59.4
2,774.0	0.0	0.1	8.1	377.8			
21482108	0.0	0.0	0.0	0.0	0.0	0.0	0.2
11.8	0.0	0.0	-0.2	-11.8			
79362108	0.0	0.0	0.0	0.0	0.0	0.0	1.2
86.0	0.0	0.0	-1.2	-86.0			
21062112	0.0	0.0	0.0	0.0	0.0	0.0	0.1
8.7	0.0	0.0	-0.1	-8.7			
21402130	0.0	0.0	0.0	0.0	0.0	0.0	0.2
11.0	0.0	0.0	-0.2	-11.0			
95272140	0.0	0.0	0.0	0.0	0.1	0.0	2.8
161.2	-0.1	0.0	-2.8	-161.2			
21082148	0.0	0.0	0.0	0.0	0.0	0.0	0.1
6.7	0.0	0.0	-0.1	-6.7			
21129527	0.0	0.0	0.0	0.0	0.1	0.1	3.4
200.1	-0.1	-0.1	-3.4	-200.1			
Total	14.6	188.0	11,402.6	571,977.9	13.8	179.4	10,935.7
549,759.9	0.9	8.6	466.8	22,218.0			

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 3] Accident Rates

[Section 3.1] Link Accident Rates

Link Name	*----- Accident Rate ----* 2023	2038 *

Accident rates are in accidents per million vehicle kilometres.

[Section 3.2] Junction Accident Rates

Junction Name	*---- Coefficient 'a' ---* 2023	2038 *

[Section 3.3] Combined Link and Junction Accident Rates

Link Name	*----- Accident Rate ----* 2023	2038 *
12021192	0.143220	0.114668
12081202	0.143220	0.114668
12421208	0.539109	0.445665
74701242	0.539109	0.445665
100011276	0.539109	0.445665
12941282	0.395754	0.328904
100081316	0.063991	0.051784
95521316	0.143220	0.114668

100321318	0.539109	0.445665
101241340	0.539109	0.445665
13061344	0.539109	0.445665
13401394	0.539109	0.445665
100241396	0.539109	0.445665
13961410	0.539109	0.445665
14201412	0.539109	0.445665
76481412	0.539109	0.445665
14121416	0.395754	0.328904
14241418	0.395754	0.328904
14361420	0.539109	0.445665
14221420	0.539109	0.445665
14281422	0.539109	0.445665
14401424	0.395754	0.328904
14181428	0.539109	0.445665
16021436	0.539109	0.445665
14501440	0.395754	0.328904
17661450	0.539109	0.445665
14561454	0.395754	0.328904
14161456	0.395754	0.328904
15221490	0.539109	0.445665
16181490	0.539109	0.445665
15161498	0.539109	0.445665
101261502	0.539109	0.445665
16041522	0.539109	0.445665
15461548	0.395754	0.328904
15641554	0.395754	0.328904
60151556	0.539109	0.445665
15481562	0.395754	0.328904
15681564	0.395754	0.328904
17441568	0.143220	0.114668
15621568	0.395754	0.328904
15581580	0.539109	0.445665
16681602	0.539109	0.445665
74781604	0.539109	0.445665
15561618	0.539109	0.445665
18541622	0.539109	0.445665
79081696	0.539109	0.445665
17681706	0.539109	0.445665
95251744	0.539109	0.445665
15681744	0.143220	0.114668
17801758	0.539109	0.445665
18041764	0.395754	0.328904
17581764	0.539109	0.445665
60521766	0.143220	0.114668
17941768	0.539109	0.445665
17061768	0.539109	0.445665
60521794	0.539109	0.445665
17681794	0.539109	0.445665
18161804	0.395754	0.328904
18341816	0.395754	0.328904
18341828	0.395754	0.328904
19881844	0.539109	0.445665
76441848	0.143220	0.114668

79361854	0.143220	0.114668
18781874	0.539109	0.445665
76181874	0.539109	0.445665
101691878	0.539109	0.445665
19601956	0.539109	0.445665
95251960	0.539109	0.445665
19561962	0.539109	0.445665
19741970	0.395754	0.328904
19621974	0.395754	0.328904
90161994	0.063991	0.051784
19621994	0.539109	0.445665
19841996	0.395754	0.328904
20842002	0.395754	0.328904
20722012	0.063991	0.051784
95192016	0.395754	0.328904
20482030	0.539109	0.445665
19742030	0.539109	0.445665
20302034	0.539109	0.445665
20122034	0.143220	0.114668
100582038	0.395754	0.328904
20442038	0.539109	0.445665
20382044	0.539109	0.445665
20342046	0.395754	0.328904
20462058	0.539109	0.445665
20962066	0.063991	0.051784
19942070	0.063991	0.051784
21102072	0.063991	0.051784
90152076	0.063991	0.051784
73722084	0.395754	0.328904
76362086	0.539109	0.445665
95092086	0.539109	0.445665
21742088	0.539109	0.445665
95022088	0.539109	0.445665
100562096	0.395754	0.328904
20762096	0.063991	0.051784
95032106	0.063991	0.051784
21062108	0.395754	0.328904
21302110	0.063991	0.051784
95052110	0.539109	0.445665
21082112	0.539109	0.445665
21482130	0.395754	0.328904
21402148	0.539109	0.445665
74762170	0.539109	0.445665
22162174	0.143220	0.114668
20882174	0.539109	0.445665
73712182	0.539109	0.445665
22242198	0.539109	0.445665
23062216	0.539109	0.445665
22482218	0.063991	0.051784
74742220	0.539109	0.445665
60152220	0.539109	0.445665
22702224	0.539109	0.445665
21982224	0.539109	0.445665
22462244	0.395754	0.328904

90092246	0.395754	0.328904
22442252	0.395754	0.328904
22522260	0.395754	0.328904
95272270	0.539109	0.445665
75742270	0.539109	0.445665
22242270	0.539109	0.445665
22802272	0.539109	0.445665
22722274	0.539109	0.445665
76782280	0.143220	0.114668
22602280	0.539109	0.445665
23082306	0.063991	0.051784
60472308	0.539109	0.445665
60482308	0.063991	0.051784
23742310	0.063991	0.051784
24202310	0.539109	0.445665
60472312	0.063991	0.051784
95272316	0.539109	0.445665
23462324	0.539109	0.445665
23062324	0.063991	0.051784
23582346	0.539109	0.445665
23802356	0.063991	0.051784
23562362	0.395754	0.328904
23742372	0.395754	0.328904
23242372	0.063991	0.051784
23822374	0.395754	0.328904
23722378	0.395754	0.328904
23842382	0.395754	0.328904
24082382	0.143220	0.114668
23782384	0.395754	0.328904
23922390	0.395754	0.328904
23902392	0.395754	0.328904
23122392	0.063991	0.051784
76382406	0.143220	0.114668
24202408	0.143220	0.114668
23822408	0.143220	0.114668
75722416	0.143220	0.114668
74842420	0.539109	0.445665
24362420	0.539109	0.445665
24082420	0.143220	0.114668
24782436	0.063991	0.051784
24202436	0.539109	0.445665
74862478	0.143220	0.114668
24362478	0.063991	0.051784
24922482	0.539109	0.445665
74822492	0.539109	0.445665
24062516	0.143220	0.114668
25162520	0.395754	0.328904
25202536	0.063991	0.051784
25762546	0.539109	0.445665
76782546	0.143220	0.114668
25362568	0.063991	0.051784
90052576	0.539109	0.445665
25462576	0.539109	0.445665
95392592	0.063991	0.051784

25982596	0.395754	0.328904
75702596	0.143220	0.114668
26422598	0.143220	0.114668
25922598	0.395754	0.328904
26162610	0.539109	0.445665
75702610	0.143220	0.114668
26342616	0.143220	0.114668
26102616	0.539109	0.445665
75762634	0.539109	0.445665
26162634	0.143220	0.114668
90052638	0.539109	0.445665
26382640	0.143220	0.114668
27022642	0.143220	0.114668
26902676	0.539109	0.445665
75762676	0.539109	0.445665
60362690	0.539109	0.445665
26762690	0.539109	0.445665
27142706	0.539109	0.445665
27102708	0.395754	0.328904
75882710	0.539109	0.445665
27082712	0.395754	0.328904
25682712	0.063991	0.051784
27282714	0.539109	0.445665
27122716	0.395754	0.328904
27222720	0.395754	0.328904
27262722	0.395754	0.328904
27422722	0.063991	0.051784
73462724	0.395754	0.328904
27162724	0.395754	0.328904
26402728	0.539109	0.445665
73462740	0.539109	0.445665
27482740	0.539109	0.445665
28342742	0.063991	0.051784
28162744	0.395754	0.328904
27542748	0.539109	0.445665
75782750	0.143220	0.114668
60362750	0.143220	0.114668
27642754	0.539109	0.445665
27662762	0.539109	0.445665
27642762	0.539109	0.445665
27702764	0.539109	0.445665
27622764	0.539109	0.445665
27622766	0.539109	0.445665
75782766	0.539109	0.445665
75802770	0.539109	0.445665
27642770	0.539109	0.445665
27402792	0.539109	0.445665
75802792	0.539109	0.445665
28042808	0.539109	0.445665
28082816	0.539109	0.445665
22206015	0.143220	0.114668
15566015	0.539109	0.445665
16226016	0.539109	0.445665
13446018	0.539109	0.445665

27506036	0.143220	0.114668
26906036	0.539109	0.445665
23106047	0.063991	0.051784
95006048	0.063991	0.051784
60506049	0.395754	0.328904
24166049	0.539109	0.445665
60516050	0.539109	0.445665
75746051	0.539109	0.445665
60496051	0.539109	0.445665
18486052	0.143220	0.114668
27407346	0.539109	0.445665
27167346	0.539109	0.445665
22187371	0.063991	0.051784
73767372	0.395754	0.328904
73777376	0.395754	0.328904
21827377	0.539109	0.445665
12507470	0.539109	0.445665
22207474	0.539109	0.445665
21747476	0.539109	0.445665
74797478	0.539109	0.445665
74787479	0.539109	0.445665
23807482	0.539109	0.445665
24827484	0.539109	0.445665
95397486	0.143220	0.114668
24787486	0.143220	0.114668
26107570	0.143220	0.114668
25967570	0.143220	0.114668
25947572	0.143220	0.114668
24167572	0.143220	0.114668
60517574	0.539109	0.445665
22707574	0.539109	0.445665
26347576	0.539109	0.445665
26767576	0.539109	0.445665
27507578	0.143220	0.114668
27667578	0.539109	0.445665
27927580	0.539109	0.445665
27707580	0.539109	0.445665
27067588	0.539109	0.445665
20447616	0.539109	0.445665
65027618	0.539109	0.445665
20867636	0.539109	0.445665
100567636	0.539109	0.445665
20587638	0.143220	0.114668
19567644	0.143220	0.114668
60187648	0.539109	0.445665
13067656	0.539109	0.445665
60167672	0.539109	0.445665
22807678	0.143220	0.114668
25467678	0.143220	0.114668
79097908	0.539109	0.445665
18547936	0.143220	0.114668
15027944	0.539109	0.445665
26389005	0.539109	0.445665
25769005	0.539109	0.445665

22489009	0.395754	0.328904
20169014	0.395754	0.328904
20129015	0.143220	0.114668
20669016	0.063991	0.051784
23929500	0.063991	0.051784
95009501	0.539109	0.445665
95019502	0.539109	0.445665
20709503	0.063991	0.051784
100589509	0.395754	0.328904
20869509	0.539109	0.445665
19969519	0.395754	0.328904
19609525	0.395754	0.328904
17449525	0.539109	0.445665
23169527	0.539109	0.445665
25929539	0.063991	0.051784
74869539	0.143220	0.114668
13169552	0.143220	0.114668
12509552	0.539109	0.445665
130010001	0.539109	0.445665
149810008	0.395754	0.328904
141010021	0.539109	0.445665
101541002	0.539109	0.445665
765610032	0.395754	0.328904
763610056	0.395754	0.328904
209610056	0.539109	0.445665
203810058	0.539109	0.445665
950910058	0.395754	0.328904
133210124	0.539109	0.445665
139410126	0.395754	0.328904
135810154	0.395754	0.328904
190210169	0.539109	0.445665
761610173	0.539109	0.445665
21482108	0.332336	0.274732
79362108	0.143220	0.114668
21062112	0.143220	0.114668
21402130	0.332336	0.274732
95272140	0.063991	0.051784
21082148	0.332336	0.274732
21129527	0.063991	0.051784

Accident rates are in accidents per million vehicle kilometres.

[Section 4] Input Data - Scheme File

Scheme Name
Arundel Option 1 Analysis

Years Subsection
Current Year 2017
Base Year 2015
Without-Scheme

Year 1 2023
Year 2 2041
Year 3 0
Year 4 0
Year 5 0
With-Scheme
Year 1 2023
Year 2 2041
Year 3 0
Year 4 0
Year 5 0

Scheme Opening Year 2023

Link Input Section

Link Classification Subsection

Link Name	Road Type	Length (km)	Speed Limit (mph)	Error/Warning Summary (!=Error, #=Warning)

Link Flow Subsection

Link Name	Base Year Flows	Without-Scheme Flows Year 1	Year 2	Year 3	Year 4	Year 5	With-Scheme Flows Year 1	Year 2	Year 3	Year 4	Year 5

Link Local Accident Rate Subsection

Link Name	Observed Accidents	First Observed Accident Year	Local Severity Split Ratio	Year

Junction Input Section

Junction Classification Subsection

Junction Name	Junction Geometry	Highest Carriageway	Highest Standard	Speed Limit (mph)	Error/Warning Summary (!=Error, #=Warning)

Junction Flow Subsection

Base Year Flows

Junction Name	Arm 1 (Major)	Arm 2 (Minor)	Arm 3 (Major)	Arm 4 (Minor)	Arm 5 (Major)	Arm 6 (Minor)

Without-Scheme Year Flows

Junction Name	Year	Arm 1 (Major)	Arm 2 (Minor)	Arm 3 (Major)	Arm 4 (Minor)	Arm 5 (Major)	Arm 6 (Minor)

With-Scheme Year Flows

Junction Name	Year	Arm 1 (Major)	Arm 2 (Minor)	Arm 3 (Major)	Arm 4 (Minor)	Arm 5 (Major)

Junction Local Accident Rate Subsection

Junction Name	Observed Accidents	First Observed Accident Year	Local Severity Split Ratio	Year

Link and Junction Combined Input Section

Combined Classification Subsection

Link Name	Road Type	Length (km)	Speed Limit (mph)	Error/Warning Summary (!=Error, #=Warning)
12021192	8	1.30	50	
12081202	8	0.08	50	
12421208	8	2.23	40	
74701242	8	0.42	40	
100011276	8	0.26	30	
12941282	12	0.42	30	
100081316	12	0.73	60	
95521316	8	1.00	50	
100321318	8	0.34	30	
101241340	8	0.42	30	
13061344	8	0.34	30	
13401394	8	0.72	30	
100241396	8	0.17	30	
13961410	8	0.39	30	
14201412	8	0.04	30	
76481412	8	0.09	30	
14121416	12	0.02	30	
14241418	12	0.03	30	
14361420	8	0.04	30	
14221420	8	0.87	40	
14281422	8	0.51	40	
14401424	12	0.02	30	
14181428	8	0.04	30	
16021436	8	0.75	30	
14501440	12	0.04	30	
17661450	8	1.40	40	
14561454	12	0.02	30	
14161456	12	0.77	40	
15221490	8	0.42	40	
16181490	8	0.81	40	
15161498	8	0.91	40	
101261502	8	0.55	30	
16041522	8	0.63	40	
15461548	12	0.03	30	
15641554	12	0.02	30	
60151556	8	0.63	30	
15481562	12	0.02	30	
15681564	12	0.03	30	
17441568	8	0.76	50	
15621568	12	0.04	30	
15581580	8	0.56	30	
16681602	8	0.43	30	
74781604	8	0.40	30	
15561618	8	2.16	40	
18541622	8	1.36	40	
79081696	8	1.02	30	
17681706	8	0.40	30	
95251744	8	0.87	40	

15681744	8	0.76	50
17801758	8	0.10	30
18041764	12	0.35	30
17581764	8	0.26	30
60521766	8	0.20	50
17941768	8	0.54	40
17061768	8	0.40	30
60521794	8	0.05	30
17681794	8	0.54	40
18161804	12	0.07	30
18341816	12	0.03	30
18341828	12	0.02	30
19881844	8	0.54	40
76441848	8	0.81	60
79361854	8	0.44	50
18781874	8	0.02	30
76181874	8	0.41	30
101691878	8	0.35	30
19601956	8	0.04	30
95251960	8	0.87	40
19561962	8	0.03	30
19741970	12	0.03	30
19621974	12	0.02	30
90161994	12	0.52	60
19621994	8	0.57	40
19841996	12	0.52	40
20842002	12	0.93	40
20722012	12	0.83	60
95192016	12	0.50	40
20482030	8	0.03	30
19742030	8	0.16	30
20302034	8	0.03	30
20122034	8	0.61	60
100582038	12	0.45	40
20442038	8	0.40	40
20382044	8	0.40	40
20342046	12	0.02	30
20462058	8	0.03	30
20962066	12	1.93	60
19942070	12	1.81	60
21102072	12	2.87	60
90152076	12	0.52	60
73722084	12	0.85	40
76362086	8	0.29	40
95092086	8	0.03	40
21742088	8	0.72	30
95022088	8	0.60	30
100562096	12	0.29	40
20762096	12	1.85	60
95032106	12	2.07	60
21062108	12	0.06	30
21302110	12	1.80	60
95052110	8	3.15	30
21082112	8	0.03	30

21482130	12	0.09	30
21402148	8	0.03	30
74762170	8	0.18	30
22162174	8	0.15	50
20882174	8	0.72	30
73712182	8	0.06	40
22242198	8	0.32	40
23062216	8	0.57	40
22482218	12	0.13	70
74742220	8	0.37	30
60152220	8	2.18	40
22702224	8	0.47	40
21982224	8	0.32	40
22462244	12	0.03	30
90092246	12	0.32	30
22442252	12	0.05	30
22522260	12	0.03	30
95272270	8	0.47	40
75742270	8	0.33	40
22242270	8	0.47	40
22802272	8	0.10	30
22722274	8	0.03	30
76782280	8	1.91	50
22602280	8	0.12	30
23082306	12	0.32	60
60472308	8	0.05	30
60482308	12	0.05	60
23742310	12	1.52	60
24202310	8	0.92	40
60472312	12	0.05	60
95272316	8	0.47	40
23462324	8	0.86	30
23062324	12	1.19	60
23582346	8	0.02	30
23802356	12	1.08	60
23562362	12	0.02	30
23742372	12	0.02	30
23242372	12	0.34	60
23822374	12	0.02	30
23722378	12	0.02	30
23842382	12	0.02	30
24082382	8	0.82	60
23782384	12	0.02	30
23922390	12	1.02	40
23902392	12	1.02	40
23122392	12	2.44	60
76382406	8	0.78	60
24202408	8	0.34	60
23822408	8	0.82	60
75722416	8	1.37	60
74842420	8	0.60	30
24362420	8	0.38	40
24082420	8	0.34	60
24782436	12	0.75	50

24202436	8	0.38	40
74862478	8	2.06	50
24362478	12	0.75	50
24922482	8	1.84	40
74822492	8	0.75	40
24062516	8	3.63	60
25162520	12	0.04	30
25202536	12	0.46	60
25762546	8	1.41	40
76782546	8	1.62	50
25362568	12	0.95	60
90052576	8	1.74	30
25462576	8	1.41	40
95392592	12	0.10	50
25982596	12	0.05	30
75702596	8	0.88	50
26422598	8	1.93	60
25922598	12	0.11	30
26162610	8	0.23	30
75702610	8	0.78	50
26342616	8	1.27	60
26102616	8	0.23	30
75762634	8	0.50	40
26162634	8	1.27	60
90052638	8	0.95	30
26382640	8	0.14	50
27022642	8	0.73	50
26902676	8	0.33	40
75762676	8	0.45	40
60362690	8	3.66	40
26762690	8	0.33	40
27142706	8	0.52	30
27102708	12	0.02	30
75882710	8	0.67	30
27082712	12	0.04	30
25682712	12	2.93	60
27282714	8	0.95	30
27122716	12	0.01	30
27222720	12	0.03	30
27262722	12	0.04	30
27422722	12	0.64	60
73462724	12	0.04	30
27162724	12	0.04	30
26402728	8	3.00	40
73462740	8	2.16	40
27482740	8	0.48	40
28342742	12	4.30	60
28162744	12	1.93	40
27542748	8	0.26	30
75782750	8	0.37	60
60362750	8	0.90	60
27642754	8	0.30	30
27662762	8	0.45	30
27642762	8	0.05	30

27702764	8	0.28	30
27622764	8	0.05	30
27622766	8	0.45	30
75782766	8	0.35	30
75802770	8	0.35	30
27642770	8	0.28	30
27402792	8	1.04	40
75802792	8	0.46	30
28042808	8	0.20	30
28082816	8	0.83	40
22206015	8	2.18	50
15566015	8	0.63	30
16226016	8	0.17	30
13446018	8	0.14	30
27506036	8	0.90	60
26906036	8	3.66	40
23106047	12	0.29	60
95006048	12	1.23	60
60506049	12	0.04	30
24166049	8	0.79	30
60516050	8	0.04	30
75746051	8	0.38	30
60496051	8	0.06	30
18486052	8	0.22	50
27407346	8	2.16	40
27167346	8	0.04	30
22187371	12	0.62	60
73767372	12	0.05	40
73777376	12	0.03	40
21827377	8	0.02	40
12507470	8	0.38	40
22207474	8	0.37	30
21747476	8	0.22	30
74797478	8	0.71	30
74787479	8	0.71	30
23807482	8	0.83	40
24827484	8	0.69	30
95397486	8	2.49	50
24787486	8	2.06	50
26107570	8	0.78	50
25967570	8	0.88	50
25947572	8	1.98	60
24167572	8	1.37	60
60517574	8	0.38	30
22707574	8	0.33	40
26347576	8	0.50	40
26767576	8	0.45	40
27507578	8	0.37	60
27667578	8	0.35	30
27927580	8	0.46	30
27707580	8	0.35	30
27067588	8	0.57	30
20447616	8	0.99	30
65027618	8	0.50	30

20867636	8	0.29	40
100567636	8	0.19	40
20587638	8	0.95	60
19567644	8	0.84	60
60187648	8	0.08	30
13067656	8	0.33	30
60167672	8	0.23	30
22807678	8	1.91	50
25467678	8	1.62	50
79097908	8	0.21	30
18547936	8	0.44	50
15027944	8	0.53	30
26389005	8	0.95	30
25769005	8	1.74	30
22489009	12	0.23	40
20169014	12	0.04	40
20129015	8	0.60	60
20669016	12	0.49	60
23929500	12	1.23	60
95009501	8	0.65	40
95019502	8	0.65	40
20709503	12	1.69	60
100589509	12	0.75	40
20869509	8	0.03	40
19969519	12	0.14	40
19609525	12	0.87	40
17449525	8	0.87	40
23169527	8	0.47	40
25929539	12	0.10	50
74869539	8	2.49	50
13169552	8	1.00	50
12509552	8	0.50	40
130010001	8	0.12	30
149810008	12	0.10	40
141010021	8	0.34	30
101541002	8	0.04	30
765610032	12	0.27	30
763610056	12	0.19	40
209610056	8	0.29	40
203810058	8	0.45	40
950910058	12	0.75	40
133210124	8	0.30	30
139410126	12	0.12	30
135810154	12	0.65	30
190210169	8	0.21	30
761610173	8	0.64	40
21482108	4	0.05	30
79362108	4	0.43	50
21062112	4	0.02	60
21402130	4	0.02	30
95272140	10	1.00	60
21082148	4	0.05	30
21129527	10	1.00	60

Combined Flow Subsection Link Name	Base Year Flows	Without-Scheme Flows Year 1	Year 2	Year 3	Year 4	Year 5	With-Scheme Flows Year 1	Year 2	Year 3	Year 4	Year 5
12021192	427	552	9,002	0	0	0	538	11,094	0	0	0
12081202	606	721	12,070	0	0	0	713	14,784	0	0	0
12421208	588	703	11,147	0	0	0	695	13,806	0	0	0
74701242	756	1,009	14,986	0	0	0	925	17,364	0	0	0
100011276	281	266	6,902	0	0	0	265	5,047	0	0	0
12941282	178	197	6,584	0	0	0	186	4,785	0	0	0
100081316	575	884	13,210	0	0	0	771	10,804	0	0	0
95521316	1,141	1,742	26,136	0	0	0	1,619	23,368	0	0	0
100321318	170	144	4,515	0	0	0	145	2,811	0	0	0
101241340	690	717	13,295	0	0	0	737	14,905	0	0	0
13061344	144	151	2,561	0	0	0	154	4,226	0	0	0
13401394	650	681	12,796	0	0	0	701	14,455	0	0	0
100241396	336	268	6,959	0	0	0	269	4,600	0	0	0
13961410	225	182	4,705	0	0	0	185	3,029	0	0	0
14201412	1,641	1,678	29,717	0	0	0	1,606	24,718	0	0	0
76481412	101	142	2,186	0	0	0	147	3,970	0	0	0
14121416	1,480	1,457	24,726	0	0	0	1,379	22,055	0	0	0
14241418	1,253	1,353	23,502	0	0	0	1,320	20,427	0	0	0
14361420	1,688	1,898	27,933	0	0	0	1,772	25,522	0	0	0
14221420	1,053	1,177	19,856	0	0	0	1,121	16,140	0	0	0
14281422	1,108	1,242	20,509	0	0	0	1,203	18,038	0	0	0
14401424	27	44	2,492	0	0	0	42	861	0	0	0
14181428	1,428	1,544	25,649	0	0	0	1,507	23,259	0	0	0
16021436	548	390	8,195	0	0	0	371	6,688	0	0	0
14501440	1,549	1,844	26,490	0	0	0					

1,743 24,010 0 0 0
17661450 31 50 2,586 0 0 0 48
896 0 0 0
14561454 1,418 1,468 25,674 0 0 0
1,387 23,539 0 0 0
14161456 1,416 1,415 23,914 0 0 0
1,330 21,308 0 0 0
15221490 143 649 9,355 0 0 0 624
7,831 0 0 0
16181490 45 46 3,138 0 0 0 274
6,083 0 0 0
15161498 635 987 16,147 0 0 0 887
14,391 0 0 0
101261502 1,014 1,007 19,081 0 0 0
1,092 21,048 0 0 0
16041522 143 649 9,355 0 0 0 624
7,831 0 0 0
15461548 1,556 1,651 26,798 0 0 0
1,608 28,570 0 0 0
15641554 934 938 13,682 0 0 0
1,197 15,768 0 0 0
60151556 111 135 6,640 0 0 0 369
10,547 0 0 0
15481562 432 414 8,303 0 0 0 420
10,800 0 0 0
15681564 2,059 2,136 30,007 0 0 0
2,315 31,969 0 0 0
17441568 383 192 3,691 0 0 0 471
6,063 0 0 0
15621568 1,942 2,203 32,357 0 0 0
2,109 33,995 0 0 0
15581580 698 665 10,558 0 0 0 720
12,071 0 0 0
16681602 552 392 8,009 0 0 0 348
6,282 0 0 0
74781604 143 649 9,355 0 0 0 624
7,831 0 0 0
15561618 62 55 2,322 0 0 0 277
4,009 0 0 0
18541622 331 7 353 0 0 0 7
2,061 0 0 0
79081696 71 259 3,978 0 0 0 290
5,519 0 0 0
17681706 532 368 8,013 0 0 0 335
6,132 0 0 0
95251744 611 708 12,482 0 0 0 881
14,416 0 0 0
15681744 267 259 5,979 0 0 0 265
8,089 0 0 0
17801758 579 641 9,096 0 0 0 788
11,158 0 0 0
18041764 530 511 8,897 0 0 0 464
6,735 0 0 0
17581764 323 412 6,102 0 0 0 524

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   7,871   0       0       0
    60521766        31              50      2,586   0       0       0       48
   896     0       0       0
    17941768        518             357     7,856   0       0       0       323
   5,953   0       0       0
    17061768        491             241     5,553   0       0       0       218
   4,035   0       0       0
    60521794        518             357     7,926   0       0       0       323
   5,953   0       0       0
    17681794        491             241     5,553   0       0       0       218
   4,035   0       0       0
    18161804        1,103           1,070   16,592  0       0       0
1,018   14,251  0       0       0
    18341816        1,103           1,070   16,591  0       0       0
1,018   14,251  0       0       0
    18341828        961             1,025   13,780  0       0       0
1,034   15,610  0       0       0
    19881844        498             714     11,286  0       0       0       663
   9,590   0       0       0
    76441848        549             407     10,513  0       0       0       371
   6,850   0       0       0
    79361854        331             629     7,120   0       0       0       716
   13,983  0       0       0
    18781874        772             728     10,485  0       0       0       857
   12,679  0       0       0
    76181874        130             108     3,430   0       0       0       171
   5,037   0       0       0
    101691878       126             126     1,937   0       0       0       203
   3,828   0       0       0
    19601956        1,093           1,164   24,326  0       0       0
1,508   25,883  0       0       0
    95251960        440             471     9,890   0       0       0       487
   12,500  0       0       0
    19561962        1,058           1,177   21,189  0       0       0
1,530   24,925  0       0       0
    19741970        1,056           1,183   23,213  0       0       0
1,693   24,877  0       0       0
    19621974        700             580     11,187  0       0       0       537
   9,332   0       0       0
    90161994        756             933     15,184  0       0       0
1,005   18,165  0       0       0
    19621994        358             596     10,003  0       0       0       993
   15,592  0       0       0
    19841996        1,717           1,747   23,919  0       0       0
1,750   25,432  0       0       0
    20842002        1,575           1,561   24,175  0       0       0
1,609   26,127  0       0       0
    20722012        1,272           1,448   22,403  0       0       0
2,280   36,271  0       0       0
    95192016        1,677           1,714   23,276  0       0       0
1,717   24,841  0       0       0
    20482030        991             1,011   20,719  0       0       0
1,527   22,267  0       0       0
    19742030        630             400     8,510   0       0       0       344
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   6,356   0       0       0
    20302034        635             408     8,583   0       0       0       350
   6,408   0       0       0
    20122034        479             521     8,458   0       0       0       941
   14,523  0       0       0
    100582038       1,089           1,243   19,551  0       0       0
1,487   23,409  0       0       0
    20442038        1,027           1,175   19,759  0       0       0
1,212   21,489  0       0       0
    20382044        1,084           1,242   20,031  0       0       0
1,471   22,690  0       0       0
    20342046        1,114           929     17,041  0       0       0
1,291   20,932  0       0       0
    20462058        1,143           956     17,373  0       0       0
1,319   21,337  0       0       0
    20962066        968             1,155   18,912  0       0       0
1,218   21,106  0       0       0
    19942070        1,114           1,529   25,187  0       0       0
1,998   33,758  0       0       0
    21102072        1,279           1,451   22,433  0       0       0
2,286   36,404  0       0       0
    90152076        794             928     13,945  0       0       0
1,339   21,747  0       0       0
    73722084        1,575           1,561   24,175  0       0       0
1,609   26,127  0       0       0
    76362086        982             1,105   17,795  0       0       0
1,458   23,854  0       0       0
    95092086        1,119           1,279   20,902  0       0       0
1,326   22,670  0       0       0
    21742088        4               52      1,735   0       0       0       79
   3,762   0       0       0
    95022088        43              29      1,446   0       0       0       4
   6,193   0       0       0
    100562096       968             1,155   18,912  0       0       0
1,218   21,106  0       0       0
    20762096        973             1,101   17,764  0       0       0
1,466   24,232  0       0       0
    95032106        1,115           1,505   23,885  0       0       0
2,017   34,485  0       0       0
    21062108        1,413           1,782   23,355  0       0       0       290
   5,522   0       0       0
    21302110        1,263           1,415   20,156  0       0       0
2,272   36,239  0       0       0
    95052110        0               24      2,066   0       0       0       0
   0       0       0       0
    21082112        1,083           1,182   16,583  0       0       0       298
   8,312   0       0       0
    21482130        1,560           1,691   23,579  0       0       0       296
   4,617   0       0       0
    21402148        60              191     1,679   0       0       0       404
   7,746   0       0       0
    74762170        109             242     7,884   0       0       0       172
   9,565   0       0       0
    22162174        171             296     8,563   0       0       0       228
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   6,174   0       0       0
    20882174        27              1       0       0       0       0       0
   4,090   0       0       0
    73712182        1,553           1,565   23,757  0       0       0
1,611   25,419  0       0       0
    22242198        1,510           1,732   25,533  0       0       0       123
   3,720   0       0       0
    23062216        171             296     8,563   0       0       0       228
   6,174   0       0       0
    22482218        1,297           1,338   20,324  0       0       0
1,368   22,387  0       0       0
    74742220        111             135     6,639   0       0       0       369
   10,547  0       0       0
    60152220        130             464     7,016   0       0       0       588
   8,525   0       0       0
    22702224        1,487           1,733   27,438  0       0       0       101
   3,595   0       0       0
    21982224        1,284           1,409   21,900  0       0       0       44
   2,461   0       0       0
    22462244        1,037           1,046   21,156  0       0       0       987
   18,457  0       0       0
    90092246        461             463     10,863  0       0       0       436
   8,549   0       0       0
    22442252        628             631     13,116  0       0       0       591
   11,062  0       0       0
    22522260        955             987     21,157  0       0       0       954
   18,483  0       0       0
    95272270        1,242           1,200   17,133  0       0       0       1
   138     0       0       0
    75742270        266             551     10,771  0       0       0       101
   3,484   0       0       0
    22242270        1,289           1,414   22,470  0       0       0       34
   2,407   0       0       0
    22802272        1,054           1,089   19,171  0       0       0
1,024   16,745  0       0       0
    22722274        1,099           1,132   19,805  0       0       0
1,068   17,395  0       0       0
    76782280        1,054           1,089   19,173  0       0       0
1,024   16,744  0       0       0
    22602280        910             944     20,522  0       0       0       911
   17,833  0       0       0
    23082306        1,137           1,476   20,407  0       0       0
1,847   25,921  0       0       0
    60472308        69              63      2,440   0       0       0       306
   4,969   0       0       0
    60482308        1,111           1,298   18,887  0       0       0
1,500   21,900  0       0       0
    23742310        1,195           1,189   16,999  0       0       0
1,497   20,697  0       0       0
    24202310        26              34      1,767   0       0       0       310
   5,350   0       0       0
    60472312        1,152           1,160   16,325  0       0       0
1,501   20,977  0       0       0
    95272316        1,267           1,369   16,911  0       0       0
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1,974   36,764  0       0       0
    23462324        0               262     5,487   0       0       0       277
   3,929   0       0       0
    23062324        1,029           1,520   17,987  0       0       0
1,997   25,008  0       0       0
    23582346        1,506           1,921   33,290  0       0       0
1,862   30,808  0       0       0
    23802356        1,457           1,465   25,486  0       0       0
1,485   23,741  0       0       0
    23562362        1,716           1,980   32,059  0       0       0
2,024   30,520  0       0       0
    23742372        514             570     15,469  0       0       0       33
   8,085   0       0       0
    23242372        964             1,704   21,932  0       0       0
2,144   26,867  0       0       0
    23822374        1,709           1,759   32,468  0       0       0
1,530   28,782  0       0       0
    23722378        1,478           2,274   37,109  0       0       0
2,174   34,481  0       0       0
    23842382        1,688           2,266   33,442  0       0       0
2,254   30,522  0       0       0
    24082382        513             572     14,946  0       0       0       34
   8,257   0       0       0
    23782384        36              703     11,111  0       0       0       674
   9,275   0       0       0
    23922390        1,152           1,160   17,099  0       0       0
1,575   24,470  0       0       0
    23902392        1,116           1,302   18,563  0       0       0
1,521   26,885  0       0       0
    23122392        1,152           1,160   17,099  0       0       0
1,575   24,470  0       0       0
    76382406        549             421     7,107   0       0       0       650
   9,909   0       0       0
    24202408        518             577     15,029  0       0       0       42
   8,382   0       0       0
    23822408        492             1,079   15,921  0       0       0       752
   9,827   0       0       0
    75722416        397             404     7,152   0       0       0       455
   10,452  0       0       0
    74842420        0               7       87      0       0       0       4
   3,166   0       0       0
    24362420        555             621     16,886  0       0       0       359
   14,963  0       0       0
    24082420        499             1,086   16,035  0       0       0       762
   9,970   0       0       0
    24782436        550             617     16,851  0       0       0       355
   14,903  0       0       0
    24202436        499             1,093   16,102  0       0       0       763
   13,090  0       0       0
    74862478        550             617     16,851  0       0       0       355
   14,903  0       0       0
    24362478        499             1,122   17,818  0       0       0       766
   13,551  0       0       0
    24922482        0               7       87      0       0       0       4
```

```
   3,166   0       0       0
    74822492        20              24      295     0       0       0       20
   3,374   0       0       0
    24062516        521             392     6,729   0       0       0       617
   9,695   0       0       0
    25162520        1,169           991     17,542  0       0       0
1,231   20,192  0       0       0
    25202536        1,133           937     16,729  0       0       0
1,136   18,889  0       0       0
    25762546        864             944     17,606  0       0       0       880
   15,453  0       0       0
    76782546        910             944     20,523  0       0       0       911
   17,833  0       0       0
    25362568        1,133           937     16,729  0       0       0
1,136   18,889  0       0       0
    90052576        714             881     15,553  0       0       0       825
   13,502  0       0       0
    25462576        763             822     19,564  0       0       0       803
   17,303  0       0       0
    95392592        506             1,129   17,950  0       0       0       773
   13,684  0       0       0
    25982596        778             1,276   23,387  0       0       0       973
   21,754  0       0       0
    75702596        501             600     14,919  0       0       0       269
   12,866  0       0       0
    26422598        385             411     9,818   0       0       0       476
   12,668  0       0       0
    25922598        821             1,426   22,010  0       0       0
1,082   18,900  0       0       0
    26162610        501             600     14,921  0       0       0       269
   12,866  0       0       0
    75702610        389             771     13,832  0       0       0       510
   9,734   0       0       0
    26342616        458             554     14,870  0       0       0       223
   12,680  0       0       0
    26102616        389             771     13,832  0       0       0       510
   9,734   0       0       0
    75762634        458             554     14,870  0       0       0       223
   12,680  0       0       0
    26162634        404             789     14,592  0       0       0       528
   10,445  0       0       0
    90052638        500             624     15,519  0       0       0       598
   12,921  0       0       0
    26382640        562             690     17,083  0       0       0       662
   14,244  0       0       0
    27022642        385             411     9,818   0       0       0       476
   12,668  0       0       0
    26902676        458             554     14,870  0       0       0       223
   12,680  0       0       0
    75762676        404             789     14,591  0       0       0       528
   10,445  0       0       0
    60362690        458             554     14,870  0       0       0       223
   12,680  0       0       0
    26762690        404             789     14,591  0       0       0       528
```

```
   10,445  0       0       0
    27142706        532             660     16,171  0       0       0       631
   13,366  0       0       0
    27102708        1,920           2,071   42,566  0       0       0
1,954   39,098  0       0       0
    75882710        532             660     16,171  0       0       0       631
   13,366  0       0       0
    27082712        723             873     21,254  0       0       0       518
   17,259  0       0       0
    25682712        1,133           937     16,729  0       0       0
1,136   18,889  0       0       0
    27282714        532             660     16,171  0       0       0       631
   13,371  0       0       0
    27122716        1,856           1,810   37,982  0       0       0
1,654   36,149  0       0       0
    27222720        1,696           1,907   36,075  0       0       0
1,733   33,353  0       0       0
    27262722        576             737     12,350  0       0       0       636
   9,826   0       0       0
    27422722        1,120           1,170   25,993  0       0       0
1,097   23,980  0       0       0
    73462724        656             917     12,892  0       0       0       736
   9,284   0       0       0
    27162724        1,405           1,265   20,763  0       0       0
1,408   22,912  0       0       0
    26402728        521             650     16,047  0       0       0       621
   13,039  0       0       0
    73462740        451             545     17,219  0       0       0       247
   13,236  0       0       0
    27482740        416             679     9,247   0       0       0       524
   6,838   0       0       0
    28342742        1,443           1,515   31,518  0       0       0
1,452   29,559  0       0       0
    28162744        1               110     5,371   0       0       0       1
   3,553   0       0       0
    27542748        384             653     8,839   0       0       0       501
   6,488   0       0       0
    75782750        458             554     14,870  0       0       0       223
   12,680  0       0       0
    60362750        404             789     14,591  0       0       0       528
   10,445  0       0       0
    27642754        384             653     8,839   0       0       0       501
   6,488   0       0       0
    27662762        404             789     14,591  0       0       0       528
   10,445  0       0       0
    27642762        458             554     16,235  0       0       0       223
   13,000  0       0       0
    27702764        30              30      3,068   0       0       0       38
   1,030   0       0       0
    27622764        404             789     14,591  0       0       0       528
   10,445  0       0       0
    27622766        458             554     15,903  0       0       0       223
   13,000  0       0       0
    75782766        404             789     14,591  0       0       0       528
```

```
   10,445  0       0       0
    75802770        30              30      4,235   0       0       0       38
   1,030   0       0       0
    27642770        20              136     5,751   0       0       0       27
   3,957   0       0       0
    27402792        0               0       3,732   0       0       0       41
   966     0       0       0
    75802792        20              136     5,751   0       0       0       27
   3,957   0       0       0
    28042808        3               112     5,475   0       0       0       3
   3,663   0       0       0
    28082816        0               109     5,361   0       0       0       0
   3,543   0       0       0
    22206015        111             135     6,639   0       0       0       369
   10,547  0       0       0
    15566015        130             464     7,016   0       0       0       588
   8,525   0       0       0
    16226016        346             18      613     0       0       0       18
   2,154   0       0       0
    13446018        84              125     1,792   0       0       0       130
   3,574   0       0       0
    27506036        458             554     14,870  0       0       0       223
   12,680  0       0       0
    26906036        404             789     14,591  0       0       0       528
   10,445  0       0       0
    23106047        1,221           1,223   18,765  0       0       0
1,806   26,047  0       0       0
    95006048        1,116           1,332   21,412  0       0       0
1,600   26,308  0       0       0
    60506049        25              329     7,162   0       0       0       43
   2,537   0       0       0
    24166049        172             193     2,921   0       0       0       11
   190     0       0       0
    60516050        23              54      6,046   0       0       0       31
   2,705   0       0       0
    75746051        23              54      6,046   0       0       0       31
   2,705   0       0       0
    60496051        189             491     8,271   0       0       0       42
   636     0       0       0
    18486052        549             407     10,513  0       0       0       371
   6,850   0       0       0
    27407346        656             917     12,892  0       0       0       736
   9,284   0       0       0
    27167346        451             545     17,219  0       0       0       247
   13,236  0       0       0
    22187371        1,553           1,565   23,757  0       0       0
1,611   25,419  0       0       0
    73767372        1,575           1,561   24,173  0       0       0
1,609   26,115  0       0       0
    73777376        1,607           1,605   24,213  0       0       0
1,651   25,853  0       0       0
    21827377        1,607           1,605   24,213  0       0       0
1,651   25,853  0       0       0
    12507470        756             1,009   14,986  0       0       0       925
```

```
   17,364  0       0       0
    22207474        130             464     7,016   0       0       0       588
   8,525   0       0       0
    21747476        171             297     8,471   0       0       0       228
   10,195  0       0       0
    74797478        71              589     8,795   0       0       0       561
   7,264   0       0       0
    74787479        43              165     3,544   0       0       0       315
   5,258   0       0       0
    23807482        20              17      208     0       0       0       17
   3,287   0       0       0
    24827484        0               7       87      0       0       0       4
   3,166   0       0       0
    95397486        558             624     16,981  0       0       0       363
   15,049  0       0       0
    24787486        499             1,122   17,818  0       0       0       766
   13,551  0       0       0
    26107570        501             600     14,919  0       0       0       269
   12,866  0       0       0
    25967570        389             771     13,832  0       0       0       510
   9,734   0       0       0
    25947572        335             443     7,025   0       0       0       359
   9,195   0       0       0
    24167572        381             265     3,685   0       0       0       440
   5,959   0       0       0
    60517574        189             491     8,271   0       0       0       42
   636     0       0       0
    22707574        31              56      5,324   0       0       0       34
   2,434   0       0       0
    26347576        404             789     14,591  0       0       0       528
   10,445  0       0       0
    26767576        458             554     14,870  0       0       0       223
   12,680  0       0       0
    27507578        404             789     14,591  0       0       0       528
   10,445  0       0       0
    27667578        458             554     14,870  0       0       0       223
   12,680  0       0       0
    27927580        30              30      4,235   0       0       0       38
   1,030   0       0       0
    27707580        20              136     5,751   0       0       0       27
   3,957   0       0       0
    27067588        532             660     16,171  0       0       0       631
   13,366  0       0       0
    20447616        1,065           1,004   14,788  0       0       0       982
   13,134  0       0       0
    65027618        85              61      2,751   0       0       0       125
   4,343   0       0       0
    20867636        1,032           1,201   19,161  0       0       0
1,257   21,161  0       0       0
    100567636       982             1,105   17,795  0       0       0
1,458   23,854  0       0       0
    20587638        586             452     7,609   0       0       0       686
   10,320  0       0       0
    19567644        585             440     12,244  0       0       0       407
```

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   8,651   0       0       0
    60187648        84              125     1,792   0       0       0       130
   3,574   0       0       0
    13067656        174             150     5,294   0       0       0       153
   3,141   0       0       0
    60167672        346             18      613     0       0       0       18
   2,154   0       0       0
    22807678        910             944     20,523  0       0       0       911
   17,833  0       0       0
    25467678        1,054           1,089   19,173  0       0       0
1,024   16,745  0       0       0
    79097908        6               201     3,474   0       0       0       230
   5,005   0       0       0
    18547936        223             409     8,604   0       0       0       499
   11,773  0       0       0
    15027944        959             927     17,611  0       0       0
1,013   19,468  0       0       0
    26389005        600             779     13,229  0       0       0       707
   11,294  0       0       0
    25769005        633             743     17,761  0       0       0       724
   15,416  0       0       0
    22489009        461             463     10,863  0       0       0       436
   8,549   0       0       0
    20169014        1,606           1,652   21,421  0       0       0
1,655   22,948  0       0       0
    20129015        794             928     13,945  0       0       0
1,339   21,747  0       0       0
    20669016        756             933     15,184  0       0       0
1,005   18,165  0       0       0
    23929500        1,116           1,302   18,562  0       0       0
1,521   26,885  0       0       0
    95009501        0               1       0       0       0       0       0
   4,711   0       0       0
    95019502        0               1       0       0       0       0       0
   4,711   0       0       0
    20709503        1,129           1,518   24,741  0       0       0
2,016   34,495  0       0       0
    100589509       1,062           1,216   19,930  0       0       0
1,258   21,827  0       0       0
    20869509        1,006           1,168   18,470  0       0       0
1,427   23,005  0       0       0
    19969519        1,717           1,747   23,919  0       0       0
1,750   25,437  0       0       0
    19609525        615             712     12,505  0       0       0       885
   14,435  0       0       0
    17449525        440             471     9,899   0       0       0       488
   12,512  0       0       0
    23169527        1,301           1,271   17,787  0       0       0
2,381   39,505  0       0       0
    25929539        558             624     16,981  0       0       0       363
   15,049  0       0       0
    74869539        506             1,129   17,950  0       0       0       773
   13,684  0       0       0
    13169552        781             1,148   22,069  0       0       0
```

1,030	18,377	0	0	0								
	12509552		1,141		1,742	26,136	0	0	0			
1,619	23,368	0	0	0								
	130010001		281		266	6,902	0	0	0	265		
5,047	0		0	0								
	149810008		635		987	16,147	0	0	0	887		
14,391	0		0	0								
	141010021		215		176	4,352	0	0	0	178		
2,706	0		0	0								
	101541002		557		620	7,690	0	0	0	572		
5,302	0		0	0								
	765610032		187		160	4,983	0	0	0	163		
2,936	0		0	0								
	763610056		1,032		1,201	19,161	0	0	0			
1,257	21,161	0	0	0								
	209610056		973		1,101	17,764	0	0	0			
1,466	24,232	0	0	0								
	203810058		1,028		1,179	19,883	0	0	0			
1,221	21,879	0	0	0								
	950910058		1,045		1,203	18,927	0	0	0			
1,450	22,954	0	0	0								
	133210124		764		790	14,122	0	0	0	807		
15,639	0		0	0								
	139410126		1,012		1,003	18,293	0	0	0			
1,088	20,265	0	0	0								
	135810154		421		347	7,551	0	0	0	351		
5,128	0		0	0								
	190210169		95		105	1,597	0	0	0	185		
3,529	0		0	0								
	761610173		902		862	13,475	0	0	0	848		
11,834	0		0	0								
	21482108		0		0	0	0	0	0	740		
853	0		0	0								
	79362108		0		0	0	0	0	0	960		
1,107	0		0	0								
	21062112		0		0	0	0	0	0			
2,390	2,309	0	0	0								
	21402130		0		0	0	0	0	0			
1,702	1,995	0	0	0								
	95272140		0		0	0	0	0	0			
2,209	2,577	0	0	0								
	21082148		0		0	0	0	0	0	389		
495	0		0	0								
	21129527		0		0	0	0	0	0			
3,066	3,103	0	0	0								

Combined Local Accident Rate Subsection

Link Name	Observed Accidents	First Observed Accident Year	Local Severity Ratio	Split Year

[Section 5] Input Data - Parameter File

COBALT Parameter File

Version 2,016.10

Cost Base Year
2010

Appraisal Period
60

Discount Rate

Years from Current Year	Discount Rate (%)
30	3.50
75	3.00
125	2.50

Cost per Casualty

Severity	Cost
Fatal	1,635,937
Serious	183,834
Slight	14,172

Cost per Accident

Severity	Insurance Administration	Damage to Property Urban	Rural	Motorway	Police Cost Urban	Rural	Motorway
Fatal	300	7,822	13,267	16,876	16,951	17,407	17,610
Serious	187	4,192	6,048	14,400	1,872	2,337	2,468
Slight	113	2,473	4,009	7,285	484	664	554
Damage	54	2,473	2,644	2,541	484	20	17

Compound Annual Rates of Growth of Accident Values

Range of Years	Rate of Growth (%p.a.)
2010-2011	1.13
2011-2012	0.51
2012-2013	1.52
2013-2014	2.16
2014-2015	1.66
2015-2016	1.69
2016-2017	1.80
2017-2018	1.73
2018-2019	1.64
2019-2020	1.66
2020-2021	1.77
2021-2022	1.78
2022-2023	1.80
2023-2024	1.91
2024-2025	1.93
2025-2026	1.94
2026-2027	1.96

2027-2028	1.98
2028-2029	1.99
2029-2030	2.01
2030-2031	2.02
2031-2032	2.04
2032-2033	2.05
2033-2034	2.16
2034-2035	2.07
2035-2036	2.08
2036-2040	2.09
2040-2045	2.11
2045-2046	2.24
2046-2050	2.14
2050-2055	2.07
2055-2057	2.09
2057-2059	2.19
2059-2060	2.29
2060-2063	2.30
2063-2065	2.20
2065-2070	2.18
2070-2085	2.17
2085-2110	2.18

Number of Damage Only Accidents per PIA

	Urban	Rural	Motorway
Damage	17.7	7.8	7.6

Link Only Accident Proportions

Base Year

2009

Road Type	Speed Limit (mph)	Accident Proportions Fatal	Serious	Slight
1	50	0.019	0.104	0.877
1	60	0.019	0.104	0.877
1	70	0.019	0.104	0.877
1	80	0.019	0.104	0.877
2	50	0.019	0.104	0.877
2	60	0.019	0.104	0.877
2	70	0.019	0.104	0.877
2	80	0.019	0.104	0.877
3	50	0.019	0.104	0.877
3	60	0.019	0.104	0.877
3	70	0.019	0.104	0.877
3	80	0.019	0.104	0.877
4	30	0.014	0.145	0.841
4	40	0.014	0.145	0.841
4	50	0.046	0.206	0.748
4	60	0.046	0.206	0.748
4	70	0.046	0.206	0.748
4	80	0.046	0.206	0.748
5	30	0.014	0.145	0.841
5	40	0.014	0.145	0.841
5	50	0.046	0.206	0.748
5	60	0.046	0.206	0.748

5	70	0.046	0.206	0.748
5	80	0.046	0.206	0.748
6	30	0.014	0.145	0.841
6	40	0.014	0.145	0.841
6	50	0.046	0.206	0.748
6	60	0.046	0.206	0.748
6	70	0.046	0.206	0.748
6	80	0.046	0.206	0.748
7	30	0.014	0.145	0.841
7	40	0.014	0.145	0.841
7	50	0.046	0.206	0.748
7	60	0.046	0.206	0.748
7	70	0.046	0.206	0.748
7	80	0.046	0.206	0.748
8	30	0.014	0.145	0.841
8	40	0.014	0.145	0.841
8	50	0.046	0.206	0.748
8	60	0.046	0.206	0.748
8	70	0.046	0.206	0.748
8	80	0.046	0.206	0.748
9	30	0.010	0.145	0.846
9	40	0.010	0.145	0.846
9	50	0.026	0.193	0.780
9	60	0.026	0.193	0.780
9	70	0.026	0.193	0.780
9	80	0.026	0.193	0.780
10	30	0.017	0.135	0.849
10	40	0.017	0.135	0.849
10	50	0.028	0.135	0.837
10	60	0.028	0.135	0.837
10	70	0.028	0.135	0.837
10	80	0.028	0.135	0.837
11	30	0.017	0.135	0.849
11	40	0.017	0.135	0.849
11	50	0.028	0.135	0.837
11	60	0.028	0.135	0.837
11	70	0.028	0.135	0.837
11	80	0.028	0.135	0.837
12	30	0.017	0.135	0.849
12	40	0.017	0.135	0.849
12	50	0.028	0.135	0.837
12	60	0.028	0.135	0.837
12	70	0.028	0.135	0.837
12	80	0.028	0.135	0.837
13	30	0.017	0.135	0.849
13	40	0.017	0.135	0.849
13	50	0.028	0.135	0.837
13	60	0.028	0.135	0.837
13	70	0.028	0.135	0.837
13	80	0.028	0.135	0.837
14	30	0.017	0.135	0.849
14	40	0.017	0.135	0.849
14	50	0.028	0.135	0.837
14	60	0.028	0.135	0.837

14	70	0.028	0.135	0.837
14	80	0.028	0.135	0.837
15	30	0.017	0.135	0.849
15	40	0.017	0.135	0.849
15	50	0.028	0.135	0.837
15	60	0.028	0.135	0.837
15	70	0.028	0.135	0.837
15	80	0.028	0.135	0.837

Link and Junction Combined Accident Proportions
Base Year
2009

Road Type	Speed Limit (mph)	Accident Proportions Fatal	Serious	Slight
1	50	0.018	0.101	0.882
1	60	0.018	0.101	0.882
1	70	0.018	0.101	0.882
1	80	0.018	0.101	0.882
2	50	0.018	0.101	0.882
2	60	0.018	0.101	0.882
2	70	0.018	0.101	0.882
2	80	0.018	0.101	0.882
3	50	0.018	0.101	0.882
3	60	0.018	0.101	0.882
3	70	0.018	0.101	0.882
3	80	0.018	0.101	0.882
4	30	0.008	0.122	0.869
4	40	0.008	0.122	0.869
4	50	0.034	0.187	0.779
4	60	0.034	0.187	0.779
4	70	0.034	0.187	0.779
4	80	0.034	0.187	0.779
5	30	0.008	0.122	0.869
5	40	0.008	0.122	0.869
5	50	0.034	0.187	0.779
5	60	0.034	0.187	0.779
5	70	0.034	0.187	0.779
5	80	0.034	0.187	0.779
6	30	0.008	0.122	0.869
6	40	0.008	0.122	0.869
6	50	0.034	0.187	0.779
6	60	0.034	0.187	0.779
6	70	0.034	0.187	0.779
6	80	0.034	0.187	0.779
7	30	0.008	0.122	0.869
7	40	0.008	0.122	0.869
7	50	0.034	0.187	0.779
7	60	0.034	0.187	0.779
7	70	0.034	0.187	0.779
7	80	0.034	0.187	0.779
8	30	0.008	0.122	0.869
8	40	0.008	0.122	0.869
8	50	0.034	0.187	0.779
8	60	0.034	0.187	0.779

8	70	0.034	0.187	0.779
8	80	0.034	0.187	0.779
9	30	0.007	0.126	0.867
9	40	0.007	0.126	0.867
9	50	0.024	0.187	0.789
9	60	0.024	0.187	0.789
9	70	0.024	0.187	0.789
9	80	0.024	0.187	0.789
10	30	0.009	0.104	0.887
10	40	0.009	0.104	0.887
10	50	0.023	0.127	0.850
10	60	0.023	0.127	0.850
10	70	0.023	0.127	0.850
10	80	0.023	0.127	0.850
11	30	0.009	0.104	0.887
11	40	0.009	0.104	0.887
11	50	0.023	0.127	0.850
11	60	0.023	0.127	0.850
11	70	0.023	0.127	0.850
11	80	0.023	0.127	0.850
12	30	0.009	0.104	0.887
12	40	0.009	0.104	0.887
12	50	0.023	0.127	0.850
12	60	0.023	0.127	0.850
12	70	0.023	0.127	0.850
12	80	0.023	0.127	0.850
13	30	0.009	0.104	0.887
13	40	0.009	0.104	0.887
13	50	0.023	0.127	0.850
13	60	0.023	0.127	0.850
13	70	0.023	0.127	0.850
13	80	0.023	0.127	0.850
14	30	0.009	0.104	0.887
14	40	0.009	0.104	0.887
14	50	0.023	0.127	0.850
14	60	0.023	0.127	0.850
14	70	0.023	0.127	0.850
14	80	0.023	0.127	0.850
15	30	0.009	0.104	0.887
15	40	0.009	0.104	0.887
15	50	0.023	0.127	0.850
15	60	0.023	0.127	0.850
15	70	0.023	0.127	0.850
15	80	0.023	0.127	0.850

Junction Only Accident Proportions
Base Year
2000

Road Type	Speed Limit (mph)	Accident Proportions Fatal	Serious	Slight
1	50	0.024	0.188	0.787
1	60	0.024	0.188	0.787
1	70	0.024	0.188	0.787
1	80	0.024	0.188	0.787

2	30	0.007	0.124	0.869
2	40	0.007	0.124	0.869
3	50	0.024	0.188	0.787
3	60	0.024	0.188	0.787
3	70	0.024	0.188	0.787
3	80	0.024	0.188	0.787
4	30	0.007	0.124	0.869
4	40	0.007	0.124	0.869
5	50	0.027	0.206	0.766
5	60	0.027	0.206	0.766
5	70	0.027	0.206	0.766
5	80	0.027	0.206	0.766
6	30	0.006	0.116	0.878
6	40	0.006	0.116	0.878
7	50	0.027	0.206	0.766
7	60	0.027	0.206	0.766
7	70	0.027	0.206	0.766
7	80	0.027	0.206	0.766
8	30	0.006	0.116	0.878
8	40	0.006	0.116	0.878
9	50	0.027	0.206	0.766
9	60	0.027	0.206	0.766
9	70	0.027	0.206	0.766
9	80	0.027	0.206	0.766
10	30	0.006	0.116	0.878
10	40	0.006	0.116	0.878
11	50	0.027	0.206	0.766
11	60	0.027	0.206	0.766
11	70	0.027	0.206	0.766
11	80	0.027	0.206	0.766
12	30	0.006	0.116	0.878
12	40	0.006	0.116	0.878
13	50	0.024	0.188	0.787
13	60	0.024	0.188	0.787
13	70	0.024	0.188	0.787
13	80	0.024	0.188	0.787
14	30	0.007	0.124	0.869
14	40	0.007	0.124	0.869
15	50	0.024	0.188	0.787
15	60	0.024	0.188	0.787
15	70	0.024	0.188	0.787
15	80	0.024	0.188	0.787
16	30	0.007	0.124	0.869
16	40	0.007	0.124	0.869
17	50	0.027	0.206	0.766
17	60	0.027	0.206	0.766
17	70	0.027	0.206	0.766
17	80	0.027	0.206	0.766
18	30	0.006	0.116	0.878
18	40	0.006	0.116	0.878
19	50	0.027	0.206	0.766
19	60	0.027	0.206	0.766
19	70	0.027	0.206	0.766
19	80	0.027	0.206	0.766

20	30	0.006	0.116	0.878
20	40	0.006	0.116	0.878
21	50	0.027	0.206	0.766
21	60	0.027	0.206	0.766
21	70	0.027	0.206	0.766
21	80	0.027	0.206	0.766
22	30	0.006	0.116	0.878
22	40	0.006	0.116	0.878
23	50	0.027	0.206	0.766
23	60	0.027	0.206	0.766
23	70	0.027	0.206	0.766
23	80	0.027	0.206	0.766
24	30	0.006	0.116	0.878
24	40	0.006	0.116	0.878
25	50	0.024	0.188	0.787
25	60	0.024	0.188	0.787
25	70	0.024	0.188	0.787
25	80	0.024	0.188	0.787
26	30	0.007	0.124	0.869
26	40	0.007	0.124	0.869
27	50	0.024	0.188	0.787
27	60	0.024	0.188	0.787
27	70	0.024	0.188	0.787
27	80	0.024	0.188	0.787
28	30	0.007	0.124	0.869
28	40	0.007	0.124	0.869
29	50	0.027	0.206	0.766
29	60	0.027	0.206	0.766
29	70	0.027	0.206	0.766
29	80	0.027	0.206	0.766
30	30	0.006	0.116	0.878
30	40	0.006	0.116	0.878
31	50	0.027	0.206	0.766
31	60	0.027	0.206	0.766
31	70	0.027	0.206	0.766
31	80	0.027	0.206	0.766
32	30	0.006	0.116	0.878
32	40	0.006	0.116	0.878
33	50	0.027	0.206	0.766
33	60	0.027	0.206	0.766
33	70	0.027	0.206	0.766
33	80	0.027	0.206	0.766
34	30	0.006	0.116	0.878
34	40	0.006	0.116	0.878
35	50	0.027	0.206	0.766
35	60	0.027	0.206	0.766
35	70	0.027	0.206	0.766
35	80	0.027	0.206	0.766
36	30	0.006	0.116	0.878
36	40	0.006	0.116	0.878
37	50	0.009	0.117	0.874
37	60	0.009	0.117	0.874
37	70	0.009	0.117	0.874
37	80	0.009	0.117	0.874

38	30	0.006	0.107	0.887
38	40	0.006	0.107	0.887
39	50	0.009	0.117	0.874
39	60	0.009	0.117	0.874
39	70	0.009	0.117	0.874
39	80	0.009	0.117	0.874
40	30	0.006	0.107	0.887
40	40	0.006	0.107	0.887
41	50	0.009	0.115	0.876
41	60	0.009	0.115	0.876
41	70	0.009	0.115	0.876
41	80	0.009	0.115	0.876
42	30	0.006	0.107	0.887
42	40	0.006	0.107	0.887
43	50	0.009	0.115	0.876
43	60	0.009	0.115	0.876
43	70	0.009	0.115	0.876
43	80	0.009	0.115	0.876
44	30	0.006	0.107	0.887
44	40	0.006	0.107	0.887
45	50	0.009	0.115	0.876
45	60	0.009	0.115	0.876
45	70	0.009	0.115	0.876
45	80	0.009	0.115	0.876
46	30	0.006	0.107	0.887
46	40	0.006	0.107	0.887
47	50	0.009	0.115	0.876
47	60	0.009	0.115	0.876
47	70	0.009	0.115	0.876
47	80	0.009	0.115	0.876
48	30	0.006	0.107	0.887
48	40	0.006	0.107	0.887
49	50	0.006	0.091	0.903
49	60	0.006	0.091	0.903
49	70	0.006	0.091	0.903
49	80	0.006	0.091	0.903
50	30	0.003	0.075	0.923
50	40	0.003	0.075	0.923
51	50	0.006	0.091	0.903
51	60	0.006	0.091	0.903
51	70	0.006	0.091	0.903
51	80	0.006	0.091	0.903
52	30	0.003	0.075	0.923
52	40	0.003	0.075	0.923
53	50	0.006	0.091	0.903
53	60	0.006	0.091	0.903
53	70	0.006	0.091	0.903
53	80	0.006	0.091	0.903
54	30	0.003	0.075	0.923
54	40	0.003	0.075	0.923
55	50	0.006	0.091	0.903
55	60	0.006	0.091	0.903
55	70	0.006	0.091	0.903
55	80	0.006	0.091	0.903

56	30	0.003	0.075	0.923
56	40	0.003	0.075	0.923
57	50	0.006	0.091	0.903
57	60	0.006	0.091	0.903
57	70	0.006	0.091	0.903
57	80	0.006	0.091	0.903
58	30	0.003	0.075	0.923
58	40	0.003	0.075	0.923
59	50	0.006	0.091	0.903
59	60	0.006	0.091	0.903
59	70	0.006	0.091	0.903
59	80	0.006	0.091	0.903
60	30	0.003	0.075	0.923
60	40	0.003	0.075	0.923
61	50	0.006	0.091	0.903
61	60	0.006	0.091	0.903
61	70	0.006	0.091	0.903
61	80	0.006	0.091	0.903
62	30	0.003	0.075	0.923
62	40	0.003	0.075	0.923
63	50	0.006	0.091	0.903
63	60	0.006	0.091	0.903
63	70	0.006	0.091	0.903
63	80	0.006	0.091	0.903
64	30	0.003	0.075	0.923
64	40	0.003	0.075	0.923
65	50	0.006	0.091	0.903
65	60	0.006	0.091	0.903
65	70	0.006	0.091	0.903
65	80	0.006	0.091	0.903
66	30	0.003	0.075	0.923
66	40	0.003	0.075	0.923
67	50	0.006	0.091	0.903
67	60	0.006	0.091	0.903
67	70	0.006	0.091	0.903
67	80	0.006	0.091	0.903
68	30	0.003	0.075	0.923
68	40	0.003	0.075	0.923
69	50	0.006	0.091	0.903
69	60	0.006	0.091	0.903
69	70	0.006	0.091	0.903
69	80	0.006	0.091	0.903
70	30	0.003	0.075	0.923
70	40	0.003	0.075	0.923
71	50	0.006	0.091	0.903
71	60	0.006	0.091	0.903
71	70	0.006	0.091	0.903
71	80	0.006	0.091	0.903
72	30	0.003	0.075	0.923
72	40	0.003	0.075	0.923
73	50	0.006	0.091	0.903
73	60	0.006	0.091	0.903
73	70	0.006	0.091	0.903
73	80	0.006	0.091	0.903

74	30	0.003	0.087	0.910
74	40	0.003	0.087	0.910
75	50	0.006	0.091	0.903
75	60	0.006	0.091	0.903
75	70	0.006	0.091	0.903
75	80	0.006	0.091	0.903
76	30	0.003	0.087	0.910
76	40	0.003	0.087	0.910
77	50	0.006	0.091	0.903
77	60	0.006	0.091	0.903
77	70	0.006	0.091	0.903
77	80	0.006	0.091	0.903
78	30	0.003	0.087	0.910
78	40	0.003	0.087	0.910
79	50	0.006	0.091	0.903
79	60	0.006	0.091	0.903
79	70	0.006	0.091	0.903
79	80	0.006	0.091	0.903
80	30	0.003	0.087	0.910
80	40	0.003	0.087	0.910
81	50	0.006	0.091	0.903
81	60	0.006	0.091	0.903
81	70	0.006	0.091	0.903
81	80	0.006	0.091	0.903
82	30	0.003	0.087	0.910
82	40	0.003	0.087	0.910
83	50	0.006	0.091	0.903
83	60	0.006	0.091	0.903
83	70	0.006	0.091	0.903
83	80	0.006	0.091	0.903
84	30	0.003	0.087	0.910
84	40	0.003	0.087	0.910
85	50	0.004	0.062	0.934
85	60	0.004	0.062	0.934
85	70	0.004	0.062	0.934
85	80	0.004	0.062	0.934
86	30	0.003	0.064	0.933
86	40	0.003	0.064	0.933
87	50	0.004	0.062	0.934
87	60	0.004	0.062	0.934
87	70	0.004	0.062	0.934
87	80	0.004	0.062	0.934
88	30	0.003	0.064	0.933
88	40	0.003	0.064	0.933
89	50	0.004	0.062	0.934
89	60	0.004	0.062	0.934
89	70	0.004	0.062	0.934
89	80	0.004	0.062	0.934
90	30	0.003	0.064	0.933
90	40	0.003	0.064	0.933
91	50	0.004	0.062	0.934
91	60	0.004	0.062	0.934
91	70	0.004	0.062	0.934
91	80	0.004	0.062	0.934

92	30	0.003	0.064	0.933
92	40	0.003	0.064	0.933
93	50	0.004	0.062	0.934
93	60	0.004	0.062	0.934
93	70	0.004	0.062	0.934
93	80	0.004	0.062	0.934
94	30	0.003	0.064	0.933
94	40	0.003	0.064	0.933
95	50	0.004	0.062	0.934
95	60	0.004	0.062	0.934
95	70	0.004	0.062	0.934
95	80	0.004	0.062	0.934
96	30	0.003	0.064	0.933
96	40	0.003	0.064	0.933

Link Only Accident Rates and Change Factors
Base Year
2009

Road Type	Speed Limit (mph)	Accident Rate	Beta Factor
1	50	0.063	0.956
1	60	0.063	0.956
1	70	0.063	0.956
2	50	0.063	0.956
2	60	0.063	0.956
2	70	0.063	0.956
3	50	0.075	0.956
3	60	0.075	0.956
3	70	0.075	0.956
4	30	0.175	0.964
4	40	0.175	0.964
4	50	0.143	0.958
4	60	0.143	0.958
4	70	0.143	0.958
4	80	0.143	0.958
5	30	0.175	0.964
5	40	0.175	0.964
5	50	0.143	0.958
5	60	0.143	0.958
5	70	0.143	0.958
5	80	0.143	0.958
6	30	0.206	0.964
6	40	0.206	0.964
6	50	0.082	0.958
6	60	0.082	0.958
6	70	0.082	0.958
6	80	0.082	0.958
7	30	0.206	0.964
7	40	0.206	0.964
7	50	0.082	0.958
7	60	0.082	0.958
7	70	0.082	0.958
7	80	0.082	0.958
8	30	0.206	0.964

8	40	0.206	0.964
8	50	0.143	0.958
8	60	0.143	0.958
8	70	0.143	0.958
8	80	0.143	0.958
9	30	0.195	0.957
9	40	0.195	0.957
9	50	0.163	0.935
9	60	0.163	0.935
9	70	0.163	0.935
9	80	0.163	0.935
10	30	0.148	0.965
10	40	0.148	0.965
10	50	0.077	0.960
10	60	0.077	0.960
10	70	0.077	0.960
10	80	0.077	0.960
11	30	0.154	0.965
11	40	0.154	0.965
11	50	0.059	0.960
11	60	0.059	0.960
11	70	0.059	0.960
11	80	0.059	0.960
12	30	0.154	0.965
12	40	0.154	0.965
12	50	0.077	0.960
12	60	0.077	0.960
12	70	0.077	0.960
12	80	0.077	0.960
13	30	0.184	0.949
13	40	0.184	0.949
13	50	0.101	0.956
13	60	0.101	0.956
13	70	0.101	0.956
13	80	0.101	0.956
14	30	0.184	0.949
14	40	0.184	0.949
14	50	0.101	0.956
14	60	0.101	0.956
14	70	0.101	0.956
14	80	0.101	0.956
15	30	0.184	0.949
15	40	0.184	0.949
15	50	0.101	0.956
15	60	0.101	0.956
15	70	0.101	0.956
15	80	0.101	0.956

Link and Junction Combined Accident Rates and Change Factors
Base Year
2009

Road Type	Speed Limit (mph)	Accident Rate	Beta Factor
1	50	0.080	0.956

1	60	0.080	0.956
1	70	0.080	0.956
2	50	0.067	0.956
2	60	0.067	0.956
2	70	0.067	0.956
3	50	0.079	0.956
3	60	0.079	0.956
3	70	0.079	0.956
4	30	0.532	0.959
4	40	0.532	0.959
4	50	0.244	0.955
4	60	0.244	0.955
4	70	0.244	0.955
4	80	0.244	0.955
5	30	0.532	0.959
5	40	0.532	0.959
5	50	0.244	0.955
5	60	0.244	0.955
5	70	0.244	0.955
5	80	0.244	0.955
6	30	0.863	0.959
6	40	0.863	0.959
6	50	0.163	0.955
6	60	0.163	0.955
6	70	0.163	0.955
6	80	0.163	0.955
7	30	0.863	0.959
7	40	0.863	0.959
7	50	0.163	0.955
7	60	0.163	0.955
7	70	0.163	0.955
7	80	0.163	0.955
8	30	0.863	0.959
8	40	0.863	0.959
8	50	0.244	0.955
8	60	0.244	0.955
8	70	0.244	0.955
8	80	0.244	0.955
9	30	0.559	0.951
9	40	0.559	0.951
9	50	0.233	0.933
9	60	0.233	0.933
9	70	0.233	0.933
9	80	0.233	0.933
10	30	0.553	0.967
10	40	0.553	0.967
10	50	0.107	0.956
10	60	0.107	0.956
10	70	0.107	0.956
10	80	0.107	0.956
11	30	0.599	0.967
11	40	0.599	0.967
11	50	0.072	0.956
11	60	0.072	0.956

11	70	0.072	0.956
11	80	0.072	0.956
12	30	0.599	0.967
12	40	0.599	0.967
12	50	0.107	0.956
12	60	0.107	0.956
12	70	0.107	0.956
12	80	0.107	0.956
13	30	0.620	0.951
13	40	0.620	0.951
13	50	0.123	0.946
13	60	0.123	0.946
13	70	0.123	0.946
13	80	0.123	0.946
14	30	0.620	0.951
14	40	0.620	0.951
14	50	0.123	0.946
14	60	0.123	0.946
14	70	0.123	0.946
14	80	0.123	0.946
15	30	0.620	0.951
15	40	0.620	0.951
15	50	0.123	0.946
15	60	0.123	0.946
15	70	0.123	0.946
15	80	0.123	0.946

Link Only and Link and Junction Combined Accident Beta Factor Changes over Time

Range of Years	Change to Beta Factor
2004-2019	1.000
2020-2029	0.500
2030-2039	0.250
2040-2153	0.000

Link Only Casualty Rates

Base Year

2009

Road Type	Speed Limit (mph)	Casualties per P.I.A. Fatal	Serious	Slight
1	50	0.021	0.129	1.464
1	60	0.021	0.129	1.464
1	70	0.021	0.129	1.464
2	50	0.021	0.129	1.464
2	60	0.021	0.129	1.464
2	70	0.021	0.129	1.464
3	50	0.021	0.129	1.464
3	60	0.021	0.129	1.464
3	70	0.021	0.129	1.464
4	30	0.015	0.162	1.154
4	40	0.015	0.162	1.154
4	50	0.052	0.274	1.251
4	60	0.052	0.274	1.251
4	70	0.052	0.274	1.251

4	80	0.052	0.274	1.251
5	30	0.015	0.162	1.154
5	40	0.015	0.162	1.154
5	50	0.052	0.274	1.251
5	60	0.052	0.274	1.251
5	70	0.052	0.274	1.251
5	80	0.052	0.274	1.251
6	30	0.015	0.162	1.154
6	40	0.015	0.162	1.154
6	50	0.052	0.274	1.251
6	60	0.052	0.274	1.251
6	70	0.052	0.274	1.251
6	80	0.052	0.274	1.251
7	30	0.015	0.162	1.154
7	40	0.015	0.162	1.154
7	50	0.052	0.274	1.251
7	60	0.052	0.274	1.251
7	70	0.052	0.274	1.251
7	80	0.052	0.274	1.251
8	30	0.015	0.162	1.154
8	40	0.015	0.162	1.154
8	50	0.052	0.274	1.251
8	60	0.052	0.274	1.251
8	70	0.052	0.274	1.251
8	80	0.052	0.274	1.251
9	30	0.010	0.156	1.071
9	40	0.010	0.156	1.071
9	50	0.028	0.230	1.178
9	60	0.028	0.230	1.178
9	70	0.028	0.230	1.178
9	80	0.028	0.230	1.178
10	30	0.018	0.148	1.183
10	40	0.018	0.148	1.183
10	50	0.031	0.161	1.328
10	60	0.031	0.161	1.328
10	70	0.031	0.161	1.328
10	80	0.031	0.161	1.328
11	30	0.018	0.148	1.183
11	40	0.018	0.148	1.183
11	50	0.031	0.161	1.328
11	60	0.031	0.161	1.328
11	70	0.031	0.161	1.328
11	80	0.031	0.161	1.328
12	30	0.018	0.148	1.183
12	40	0.018	0.148	1.183
12	50	0.031	0.161	1.328
12	60	0.031	0.161	1.328
12	70	0.031	0.161	1.328
12	80	0.031	0.161	1.328
13	30	0.018	0.148	1.183
13	40	0.018	0.148	1.183
13	50	0.031	0.161	1.328
13	60	0.031	0.161	1.328
13	70	0.031	0.161	1.328

13	80	0.031	0.161	1.328
14	30	0.018	0.148	1.183
14	40	0.018	0.148	1.183
14	50	0.031	0.161	1.328
14	60	0.031	0.161	1.328
14	70	0.031	0.161	1.328
14	80	0.031	0.161	1.328
15	30	0.018	0.148	1.183
15	40	0.018	0.148	1.183
15	50	0.031	0.161	1.328
15	60	0.031	0.161	1.328
15	70	0.031	0.161	1.328
15	80	0.031	0.161	1.328

Link and Junction Combined Casualty Rates
Base Year
2009

Road Type	Speed Limit (mph)	Casualties per P.I.A. Fatal	Serious	Slight
1	50	0.020	0.123	1.455
1	60	0.020	0.123	1.455
1	70	0.020	0.123	1.455
2	50	0.020	0.123	1.455
2	60	0.020	0.123	1.455
2	70	0.020	0.123	1.455
3	50	0.020	0.123	1.455
3	60	0.020	0.123	1.455
3	70	0.020	0.123	1.455
4	30	0.009	0.132	1.176
4	40	0.009	0.132	1.176
4	50	0.038	0.238	1.300
4	60	0.038	0.238	1.300
4	70	0.038	0.238	1.300
4	80	0.038	0.238	1.300
5	30	0.009	0.132	1.176
5	40	0.009	0.132	1.176
5	50	0.038	0.238	1.300
5	60	0.038	0.238	1.300
5	70	0.038	0.238	1.300
5	80	0.038	0.238	1.300
6	30	0.009	0.132	1.176
6	40	0.009	0.132	1.176
6	50	0.038	0.238	1.300
6	60	0.038	0.238	1.300
6	70	0.038	0.238	1.300
6	80	0.038	0.238	1.300
7	30	0.009	0.132	1.176
7	40	0.009	0.132	1.176
7	50	0.038	0.238	1.300
7	60	0.038	0.238	1.300
7	70	0.038	0.238	1.300
7	80	0.038	0.238	1.300
8	30	0.009	0.132	1.176
8	40	0.009	0.132	1.176

8	50	0.038	0.238	1.300
8	60	0.038	0.238	1.300
8	70	0.038	0.238	1.300
8	80	0.038	0.238	1.300
9	30	0.007	0.134	1.132
9	40	0.007	0.134	1.132
9	50	0.026	0.222	1.218
9	60	0.026	0.222	1.218
9	70	0.026	0.222	1.218
9	80	0.026	0.222	1.218
10	30	0.009	0.112	1.238
10	40	0.009	0.112	1.238
10	50	0.025	0.151	1.297
10	60	0.025	0.151	1.297
10	70	0.025	0.151	1.297
10	80	0.025	0.151	1.297
11	30	0.009	0.112	1.238
11	40	0.009	0.112	1.238
11	50	0.025	0.151	1.297
11	60	0.025	0.151	1.297
11	70	0.025	0.151	1.297
11	80	0.025	0.151	1.297
12	30	0.009	0.112	1.238
12	40	0.009	0.112	1.238
12	50	0.025	0.151	1.297
12	60	0.025	0.151	1.297
12	70	0.025	0.151	1.297
12	80	0.025	0.151	1.297
13	30	0.009	0.112	1.238
13	40	0.009	0.112	1.238
13	50	0.025	0.151	1.297
13	60	0.025	0.151	1.297
13	70	0.025	0.151	1.297
13	80	0.025	0.151	1.297
14	30	0.009	0.112	1.238
14	40	0.009	0.112	1.238
14	50	0.025	0.151	1.297
14	60	0.025	0.151	1.297
14	70	0.025	0.151	1.297
14	80	0.025	0.151	1.297
15	30	0.009	0.112	1.238
15	40	0.009	0.112	1.238
15	50	0.025	0.151	1.297
15	60	0.025	0.151	1.297
15	70	0.025	0.151	1.297
15	80	0.025	0.151	1.297

Link Only Casualty Change Factors
Base Year
2009

Road Type	Speed Limit (mph)	Beta Factor		
		Fatal	Serious	Slight
1	50	0.978	0.979	1.002
1	60	0.978	0.979	1.002

1	70	0.978	0.979	1.002
2	50	0.978	0.979	1.002
2	60	0.978	0.979	1.002
2	70	0.978	0.979	1.002
3	50	0.978	0.979	1.002
3	60	0.978	0.979	1.002
3	70	0.978	0.979	1.002
4	30	0.971	0.995	1.001
4	40	0.971	0.995	1.001
4	50	0.979	0.983	1.002
4	60	0.979	0.983	1.002
4	70	0.979	0.983	1.002
4	80	0.979	0.983	1.002
5	30	0.971	0.995	1.001
5	40	0.971	0.995	1.001
5	50	0.979	0.983	1.002
5	60	0.979	0.983	1.002
5	70	0.979	0.983	1.002
5	80	0.979	0.983	1.002
6	30	0.971	0.995	1.001
6	40	0.971	0.995	1.001
6	50	0.979	0.983	1.002
6	60	0.979	0.983	1.002
6	70	0.979	0.983	1.002
6	80	0.979	0.983	1.002
7	30	0.971	0.995	1.001
7	40	0.971	0.995	1.001
7	50	0.979	0.983	1.002
7	60	0.979	0.983	1.002
7	70	0.979	0.983	1.002
7	80	0.979	0.983	1.002
8	30	0.971	0.995	1.001
8	40	0.971	0.995	1.001
8	50	0.979	0.983	1.002
8	60	0.979	0.983	1.002
8	70	0.979	0.983	1.002
8	80	0.979	0.983	1.002
9	30	0.985	0.997	1.001
9	40	0.985	0.997	1.001
9	50	0.987	0.989	0.998
9	60	0.987	0.989	0.998
9	70	0.987	0.989	0.998
9	80	0.987	0.989	0.998
10	30	0.998	0.990	1.002
10	40	0.998	0.990	1.002
10	50	0.984	0.985	0.998
10	60	0.984	0.985	0.998
10	70	0.984	0.985	0.998
10	80	0.984	0.985	0.998
11	30	0.998	0.990	1.002
11	40	0.998	0.990	1.002
11	50	0.984	0.985	0.998
11	60	0.984	0.985	0.998
11	70	0.984	0.985	0.998

11	80	0.984	0.985	0.998
12	30	0.998	0.990	1.002
12	40	0.998	0.990	1.002
12	50	0.984	0.985	0.998
12	60	0.984	0.985	0.998
12	70	0.984	0.985	0.998
12	80	0.984	0.985	0.998
13	30	0.998	0.990	1.002
13	40	0.998	0.990	1.002
13	50	0.984	0.985	0.998
13	60	0.984	0.985	0.998
13	70	0.984	0.985	0.998
13	80	0.984	0.985	0.998
14	30	0.998	0.990	1.002
14	40	0.998	0.990	1.002
14	50	0.984	0.985	0.998
14	60	0.984	0.985	0.998
14	70	0.984	0.985	0.998
14	80	0.984	0.985	0.998
15	30	0.998	0.990	1.002
15	40	0.998	0.990	1.002
15	50	0.984	0.985	0.998
15	60	0.984	0.985	0.998
15	70	0.984	0.985	0.998
15	80	0.984	0.985	0.998

Link and Junction Combined Casualty Change Factors
Base Year
2009

Road Type	Speed Limit (mph)	Beta Factor Fatal	Serious	Slight
1	50	0.978	0.979	1.002
1	60	0.978	0.979	1.002
1	70	0.978	0.979	1.002
2	50	0.978	0.979	1.002
2	60	0.978	0.979	1.002
2	70	0.978	0.979	1.002
3	50	0.978	0.979	1.002
3	60	0.978	0.979	1.002
3	70	0.978	0.979	1.002
4	30	0.971	0.995	1.001
4	40	0.971	0.995	1.001
4	50	0.979	0.983	1.002
4	60	0.979	0.983	1.002
4	70	0.979	0.983	1.002
4	80	0.979	0.983	1.002
5	30	0.971	0.995	1.001
5	40	0.971	0.995	1.001
5	50	0.979	0.983	1.002
5	60	0.979	0.983	1.002
5	70	0.979	0.983	1.002
5	80	0.979	0.983	1.002
6	30	0.971	0.995	1.001
6	40	0.971	0.995	1.001

6	50	0.979	0.983	1.002
6	60	0.979	0.983	1.002
6	70	0.979	0.983	1.002
6	80	0.979	0.983	1.002
7	30	0.971	0.995	1.001
7	40	0.971	0.995	1.001
7	50	0.979	0.983	1.002
7	60	0.979	0.983	1.002
7	70	0.979	0.983	1.002
7	80	0.979	0.983	1.002
8	30	0.971	0.995	1.001
8	40	0.971	0.995	1.001
8	50	0.979	0.983	1.002
8	60	0.979	0.983	1.002
8	70	0.979	0.983	1.002
8	80	0.979	0.983	1.002
9	30	0.985	0.997	1.001
9	40	0.985	0.997	1.001
9	50	0.987	0.989	0.998
9	60	0.987	0.989	0.998
9	70	0.987	0.989	0.998
9	80	0.987	0.989	0.998
10	30	0.998	0.990	1.002
10	40	0.998	0.990	1.002
10	50	0.984	0.985	0.998
10	60	0.984	0.985	0.998
10	70	0.984	0.985	0.998
10	80	0.984	0.985	0.998
11	30	0.998	0.990	1.002
11	40	0.998	0.990	1.002
11	50	0.984	0.985	0.998
11	60	0.984	0.985	0.998
11	70	0.984	0.985	0.998
11	80	0.984	0.985	0.998
12	30	0.998	0.990	1.002
12	40	0.998	0.990	1.002
12	50	0.984	0.985	0.998
12	60	0.984	0.985	0.998
12	70	0.984	0.985	0.998
12	80	0.984	0.985	0.998
13	30	0.998	0.990	1.002
13	40	0.998	0.990	1.002
13	50	0.984	0.985	0.998
13	60	0.984	0.985	0.998
13	70	0.984	0.985	0.998
13	80	0.984	0.985	0.998
14	30	0.998	0.990	1.002
14	40	0.998	0.990	1.002
14	50	0.984	0.985	0.998
14	60	0.984	0.985	0.998
14	70	0.984	0.985	0.998
14	80	0.984	0.985	0.998
15	30	0.998	0.990	1.002
15	40	0.998	0.990	1.002

15	50	0.984	0.985	0.998
15	60	0.984	0.985	0.998
15	70	0.984	0.985	0.998
15	80	0.984	0.985	0.998

Link Only and Link and Junction Combined Casualty Beta Factor Changes over Time

Range of Years	Change to Beta Factor
1995-2019	1.000
2020-2144	0.000

Junction Only Accident Parameters

Base Year

1997

Junction Type	Speed Limit (mph)	Coefficient 'a'	Power 'b'	Arms	Highest Link (S/D)	Formula Type
1	50	0.195	0.460	3	S	C
1	60	0.195	0.460	3	S	C
1	70	0.195	0.460	3	S	C
1	80	0.195	0.460	3	S	C
2	20	0.195	0.460	3	S	C
2	30	0.195	0.460	3	S	C
2	40	0.195	0.460	3	S	C
3	50	0.195	0.460	3	D	C
3	60	0.195	0.460	3	D	C
3	70	0.195	0.460	3	D	C
3	80	0.195	0.460	3	D	C
4	20	0.195	0.460	3	D	C
4	30	0.195	0.460	3	D	C
4	40	0.195	0.460	3	D	C
5	50	0.361	0.440	4	S	I
5	60	0.361	0.440	4	S	I
5	70	0.361	0.440	4	S	I
5	80	0.361	0.440	4	S	I

```
 6               20              0.361           0.440   4       S
I
 6               30              0.361           0.440   4       S
I
 6               40              0.361           0.440   4       S
I
 7               50              0.240           0.710   4       D
C
 7               60              0.240           0.710   4       D
C
 7               70              0.240           0.710   4       D
C
 7               80              0.240           0.710   4       D
C
 8               20              0.240           0.710   4       D
C
 8               30              0.240           0.710   4       D
C
 8               40              0.240           0.710   4       D
C
 9               50              0.361           0.440   5       S
I
 9               60              0.361           0.440   5       S
I
 9               70              0.361           0.440   5       S
I
 9               80              0.361           0.440   5       S
I
 10              20              0.361           0.440   5       S
I
 10              30              0.361           0.440   5       S
I
 10              40              0.361           0.440   5       S
I
 11              50              0.361           0.440   5       D
I
 11              60              0.361           0.440   5       D
I
 11              70              0.361           0.440   5       D
I
 11              80              0.361           0.440   5       D
I
 12              20              0.361           0.440   5       D
I
 12              30              0.361           0.440   5       D
I
 12              40              0.361           0.440   5       D
I
 13              50              0.195           0.460   3       S
C
 13              60              0.195           0.460   3       S
C
 13              70              0.195           0.460   3       S
C
```

13	80	0.195	0.460	3	S
C					
14	20	0.195	0.460	3	S
C					
14	30	0.195	0.460	3	S
C					
14	40	0.195	0.460	3	S
C					
15	50	0.195	0.460	3	D
C					
15	60	0.195	0.460	3	D
C					
15	70	0.195	0.460	3	D
C					
15	80	0.195	0.460	3	D
C					
16	20	0.195	0.460	3	D
C					
16	30	0.195	0.460	3	D
C					
16	40	0.195	0.460	3	D
C					
17	50	0.361	0.440	4	S
I					
17	60	0.361	0.440	4	S
I					
17	70	0.361	0.440	4	S
I					
17	80	0.361	0.440	4	S
I					
18	20	0.361	0.440	4	S
I					
18	30	0.361	0.440	4	S
I					
18	40	0.361	0.440	4	S
I					
19	50	0.240	0.710	4	D
C					
19	60	0.240	0.710	4	D
C					
19	70	0.240	0.710	4	D
C					
19	80	0.240	0.710	4	D
C					
20	20	0.240	0.710	4	D
C					
20	30	0.240	0.710	4	D
C					
20	40	0.240	0.710	4	D
C					
21	50	0.361	0.440	5	S
I					
21	60	0.361	0.440	5	S
I					

21	70	0.361	0.440	5	S I
21	80	0.361	0.440	5	S I
22	20	0.361	0.440	5	S I
22	30	0.361	0.440	5	S I
22	40	0.361	0.440	5	S I
23	50	0.361	0.440	5	D I
23	60	0.361	0.440	5	D I
23	70	0.361	0.440	5	D I
23	80	0.361	0.440	5	D I
24	20	0.361	0.440	5	D I
24	30	0.361	0.440	5	D I
24	40	0.361	0.440	5	D I
25	50	0.195	0.460	3	S C
25	60	0.195	0.460	3	S C
25	70	0.195	0.460	3	S C
25	80	0.195	0.460	3	S C
26	20	0.195	0.460	3	S C
26	30	0.195	0.460	3	S C
26	40	0.195	0.460	3	S C
27	50	0.195	0.460	3	D C
27	60	0.195	0.460	3	D C
27	70	0.195	0.460	3	D C
27	80	0.195	0.460	3	D C
28	20	0.195	0.460	3	D C
28	30	0.195	0.460	3	D C
28	40	0.195	0.460	3	D C
29	50	0.361	0.440	4	S I

29	60	0.361	0.440	4	SI
29	70	0.361	0.440	4	SI
29	80	0.361	0.440	4	SI
30	20	0.361	0.440	4	SI
30	30	0.361	0.440	4	SI
30	40	0.361	0.440	4	SI
31	50	0.240	0.710	4	DC
31	60	0.240	0.710	4	DC
31	70	0.240	0.710	4	DC
31	80	0.240	0.710	4	DC
32	20	0.240	0.710	4	DC
32	30	0.240	0.710	4	DC
32	40	0.240	0.710	4	DC
33	50	0.361	0.440	5	SI
33	60	0.361	0.440	5	SI
33	70	0.361	0.440	5	SI
33	80	0.361	0.440	5	SI
34	20	0.361	0.440	5	SI
34	30	0.361	0.440	5	SI
34	40	0.361	0.440	5	SI
35	50	0.361	0.440	5	DI
35	60	0.361	0.440	5	DI
35	70	0.361	0.440	5	DI
35	80	0.361	0.440	5	DI
36	20	0.361	0.440	5	DI
36	30	0.361	0.440	5	DI
36	40	0.361	0.440	5	DI

```
 37              50              0.223           0.610   3       S
I
 37              60              0.223           0.610   3       S
I
 37              70              0.223           0.610   3       S
I
 37              80              0.223           0.610   3       S
I
 38              20              0.223           0.610   3       S
I
 38              30              0.223           0.610   3       S
I
 38              40              0.223           0.610   3       S
I
 39              50              0.494           0.420   3       D
C
 39              60              0.494           0.420   3       D
C
 39              70              0.494           0.420   3       D
C
 39              80              0.494           0.420   3       D
C
 40              20              0.291           0.510   3       D
C
 40              30              0.291           0.510   3       D
C
 40              40              0.291           0.510   3       D
C
 41              50              1.378           0.200   4       S
C
 41              60              1.378           0.200   4       S
C
 41              70              1.378           0.200   4       S
C
 41              80              1.378           0.200   4       S
C
 42              20              1.378           0.200   4       S
C
 42              30              1.378           0.200   4       S
C
 42              40              1.378           0.200   4       S
C
 43              50              0.494           0.420   4       D
C
 43              60              0.494           0.420   4       D
C
 43              70              0.494           0.420   4       D
C
 43              80              0.494           0.420   4       D
C
 44              20              0.291           0.510   4       D
C
 44              30              0.291           0.510   4       D
C
```

44	40	0.291	0.510	4	D
C					
45	50	0.254	0.620	5	S
I					
45	60	0.254	0.620	5	S
I					
45	70	0.254	0.620	5	S
I					
45	80	0.254	0.620	5	S
I					
46	20	0.254	0.620	5	S
I					
46	30	0.254	0.620	5	S
I					
46	40	0.254	0.620	5	S
I					
47	50	0.238	0.850	5	D
I					
47	60	0.238	0.850	5	D
I					
47	70	0.238	0.850	5	D
I					
47	80	0.238	0.850	5	D
I					
48	20	0.160	0.970	5	D
I					
48	30	0.160	0.970	5	D
I					
48	40	0.160	0.970	5	D
I					
49	50	0.033	0.760	3	S
C					
49	60	0.033	0.760	3	S
C					
49	70	0.033	0.760	3	S
C					
49	80	0.033	0.760	3	S
C					
50	20	0.033	0.760	3	S
C					
50	30	0.033	0.760	3	S
C					
50	40	0.033	0.760	3	S
C					
51	50	0.033	0.760	3	D
C					
51	60	0.033	0.760	3	D
C					
51	70	0.033	0.760	3	D
C					
51	80	0.033	0.760	3	D
C					
52	20	0.033	0.760	3	D
C					

```
 52              30              0.033           0.760   3       D
C
 52              40              0.033           0.760   3       D
C
 53              50              0.024           0.890   4       S
C
 53              60              0.024           0.890   4       S
C
 53              70              0.024           0.890   4       S
C
 53              80              0.024           0.890   4       S
C
 54              20              0.048           0.740   4       S
C
 54              30              0.048           0.740   4       S
C
 54              40              0.048           0.740   4       S
C
 55              50              0.063           0.690   4       D
C
 55              60              0.063           0.690   4       D
C
 55              70              0.063           0.690   4       D
C
 55              80              0.063           0.690   4       D
C
 56              20              0.022           0.850   4       D
C
 56              30              0.022           0.850   4       D
C
 56              40              0.022           0.850   4       D
C
 57              50              0.007           1.770   5       S
I
 57              60              0.007           1.770   5       S
I
 57              70              0.007           1.770   5       S
I
 57              80              0.007           1.770   5       S
I
 58              20              0.014           1.530   5       S
I
 58              30              0.014           1.530   5       S
I
 58              40              0.014           1.530   5       S
I
 59              50              0.019           1.420   5       D
I
 59              60              0.019           1.420   5       D
I
 59              70              0.019           1.420   5       D
I
 59              80              0.019           1.420   5       D
I
```

```
 60              20              0.006           1.730   5       D
I
 60              30              0.006           1.730   5       D
I
 60              40              0.006           1.730   5       D
I
 61              50              0.033           0.760   3       S
C
 61              60              0.033           0.760   3       S
C
 61              70              0.033           0.760   3       S
C
 61              80              0.033           0.760   3       S
C
 62              20              0.033           0.760   3       S
C
 62              30              0.033           0.760   3       S
C
 62              40              0.033           0.760   3       S
C
 63              50              0.033           0.760   3       D
C
 63              60              0.033           0.760   3       D
C
 63              70              0.033           0.760   3       D
C
 63              80              0.033           0.760   3       D
C
 64              20              0.033           0.760   3       D
C
 64              30              0.033           0.760   3       D
C
 64              40              0.033           0.760   3       D
C
 65              50              0.101           0.660   4       S
C
 65              60              0.101           0.660   4       S
C
 65              70              0.101           0.660   4       S
C
 65              80              0.101           0.660   4       S
C
 66              20              0.263           0.540   4       S
C
 66              30              0.263           0.540   4       S
C
 66              40              0.263           0.540   4       S
C
 67              50              0.101           0.660   4       D
C
 67              60              0.101           0.660   4       D
C
 67              70              0.101           0.660   4       D
C
```

67	80	0.101	0.660	4	D
C					
68	20	0.263	0.540	4	D
C					
68	30	0.263	0.540	4	D
C					
68	40	0.263	0.540	4	D
C					
69	50	0.044	1.280	5	S
I					
69	60	0.044	1.280	5	S
I					
69	70	0.044	1.280	5	S
I					
69	80	0.044	1.280	5	S
I					
70	20	0.095	1.140	5	S
I					
70	30	0.095	1.140	5	S
I					
70	40	0.095	1.140	5	S
I					
71	50	0.044	1.280	5	D
I					
71	60	0.044	1.280	5	D
I					
71	70	0.044	1.280	5	D
I					
71	80	0.044	1.280	5	D
I					
72	20	0.095	1.140	5	D
I					
72	30	0.095	1.140	5	D
I					
72	40	0.095	1.140	5	D
I					
73	50	0.012	1.040	3	S
C					
73	60	0.012	1.040	3	S
C					
73	70	0.012	1.040	3	S
C					
73	80	0.012	1.040	3	S
C					
74	20	0.012	1.040	3	S
C					
74	30	0.012	1.040	3	S
C					
74	40	0.012	1.040	3	S
C					
75	50	0.012	1.040	3	D
C					
75	60	0.012	1.040	3	D
C					

```
 75              70              0.012           1.040   3       D
C
 75              80              0.012           1.040   3       D
C
 76              20              0.012           1.040   3       D
C
 76              30              0.012           1.040   3       D
C
 76              40              0.012           1.040   3       D
C
 77              50              0.070           0.640   4       S
C
 77              60              0.070           0.640   4       S
C
 77              70              0.070           0.640   4       S
C
 77              80              0.070           0.640   4       S
C
 78              20              0.070           0.640   4       S
C
 78              30              0.070           0.640   4       S
C
 78              40              0.070           0.640   4       S
C
 79              50              0.070           0.640   4       D
C
 79              60              0.070           0.640   4       D
C
 79              70              0.070           0.640   4       D
C
 79              80              0.070           0.640   4       D
C
 80              20              0.070           0.640   4       D
C
 80              30              0.070           0.640   4       D
C
 80              40              0.070           0.640   4       D
C
 81              50              0.013           1.470   5       S
I
 81              60              0.013           1.470   5       S
I
 81              70              0.013           1.470   5       S
I
 81              80              0.013           1.470   5       S
I
 82              20              0.013           1.470   5       S
I
 82              30              0.013           1.470   5       S
I
 82              40              0.013           1.470   5       S
I
 83              50              0.013           1.470   5       D
I
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 83              60              0.013           1.470   5       D
I
 83              70              0.013           1.470   5       D
I
 83              80              0.013           1.470   5       D
I
 84              20              0.013           1.470   5       D
I
 84              30              0.013           1.470   5       D
I
 84              40              0.013           1.470   5       D
I
 85              50              0.033           0.760   3       S
C
 85              60              0.033           0.760   3       S
C
 85              70              0.033           0.760   3       S
C
 85              80              0.033           0.760   3       S
C
 86              20              0.033           0.760   3       S
C
 86              30              0.033           0.760   3       S
C
 86              40              0.033           0.760   3       S
C
 87              50              0.033           0.760   3       D
C
 87              60              0.033           0.760   3       D
C
 87              70              0.033           0.760   3       D
C
 87              80              0.033           0.760   3       D
C
 88              20              0.033           0.760   3       D
C
 88              30              0.033           0.760   3       D
C
 88              40              0.033           0.760   3       D
C
 89              50              0.024           0.890   4       S
C
 89              60              0.024           0.890   4       S
C
 89              70              0.024           0.890   4       S
C
 89              80              0.024           0.890   4       S
C
 90              20              0.048           0.740   4       S
C
 90              30              0.048           0.740   4       S
C
 90              40              0.048           0.740   4       S
C
```

91	50	0.063	0.690	4	D
C					
91	60	0.063	0.690	4	D
C					
91	70	0.063	0.690	4	D
C					
91	80	0.063	0.690	4	D
C					
92	20	0.022	0.850	4	D
C					
92	30	0.022	0.850	4	D
C					
92	40	0.022	0.850	4	D
C					
93	50	0.007	1.770	5	S
I					
93	60	0.007	1.770	5	S
I					
93	70	0.007	1.770	5	S
I					
93	80	0.007	1.770	5	S
I					
94	20	0.014	1.530	5	S
I					
94	30	0.014	1.530	5	S
I					
94	40	0.014	1.530	5	S
I					
95	50	0.019	1.420	5	D
I					
95	60	0.019	1.420	5	D
I					
95	70	0.019	1.420	5	D
I					
95	80	0.019	1.420	5	D
I					
96	20	0.006	1.730	5	D
I					
96	30	0.006	1.730	5	D
I					
96	40	0.006	1.730	5	D
I					

Junction Only Accident Change Factors
Base Year
2000

Classification	Speed Limit (mph)	Beta Factor
Major	20	0.991
Major	30	0.991
Major	40	0.991
Major	50	0.984
Major	60	0.984
Major	70	0.984

Major	80	0.984
Minor	20	0.976
Minor	30	0.976
Minor	40	0.976
Minor	50	0.996
Minor	60	0.996
Minor	70	0.996
Minor	80	0.996

Junction Only Accident Beta Factor Changes over Time

Range of Years	Change to Beta Factor
1995-2010	1.000
2011-2020	0.500
2021-2030	0.250
2031-2144	0.000

Junction Only Casualty Rates

Base Year
2000

Road Type	Casualties per P.I.A.		
	Fatal	Serious	Slight
1	0.0265	0.2413	1.355
2	0.0075	0.1350	1.144
3	0.0265	0.2413	1.355
4	0.0075	0.1350	1.144
5	0.0295	0.2793	1.459
6	0.0062	0.1292	1.244
7	0.0295	0.2793	1.459
8	0.0062	0.1292	1.244
9	0.0295	0.2793	1.459
10	0.0062	0.1292	1.244
11	0.0295	0.2793	1.459
12	0.0062	0.1292	1.244
13	0.0265	0.2413	1.355
14	0.0075	0.1350	1.144
15	0.0265	0.2413	1.355
16	0.0075	0.1350	1.144
17	0.0295	0.2793	1.459
18	0.0062	0.1292	1.244
19	0.0295	0.2793	1.459
20	0.0062	0.1292	1.244
21	0.0295	0.2793	1.459
22	0.0062	0.1292	1.244
23	0.0295	0.2793	1.459
24	0.0062	0.1292	1.244
25	0.0265	0.2413	1.355
26	0.0075	0.1350	1.144
27	0.0265	0.2413	1.355
28	0.0075	0.1350	1.144
29	0.0295	0.2793	1.459
30	0.0062	0.1292	1.244
31	0.0295	0.2793	1.459
32	0.0062	0.1292	1.244
33	0.0295	0.2793	1.459

34	0.0062	0.1292	1.244
35	0.0295	0.2793	1.459
36	0.0062	0.1292	1.244
37	0.0092	0.1631	1.444
38	0.0064	0.1157	1.214
39	0.0092	0.1631	1.444
40	0.0064	0.1157	1.214
41	0.0095	0.1423	1.467
42	0.0061	0.1177	1.253
43	0.0095	0.1423	1.467
44	0.0061	0.1177	1.253
45	0.0095	0.1423	1.467
46	0.0061	0.1177	1.253
47	0.0095	0.1423	1.467
48	0.0061	0.1177	1.253
49	0.0060	0.1019	1.214
50	0.0027	0.0806	1.163
51	0.0060	0.1019	1.214
52	0.0027	0.0806	1.163
53	0.0060	0.1019	1.214
54	0.0027	0.0806	1.163
55	0.0060	0.1019	1.214
56	0.0027	0.0806	1.163
57	0.0060	0.1019	1.214
58	0.0027	0.0806	1.163
59	0.0060	0.1019	1.214
60	0.0027	0.0806	1.163
61	0.0060	0.1019	1.214
62	0.0027	0.0806	1.163
63	0.0060	0.1019	1.214
64	0.0027	0.0806	1.163
65	0.0060	0.1019	1.214
66	0.0027	0.0806	1.163
67	0.0060	0.1019	1.214
68	0.0027	0.0806	1.163
69	0.0060	0.1019	1.214
70	0.0027	0.0806	1.163
71	0.0060	0.1019	1.214
72	0.0027	0.0806	1.163
73	0.0060	0.1019	1.214
74	0.0028	0.0965	1.182
75	0.0060	0.1019	1.214
76	0.0028	0.0965	1.182
77	0.0060	0.1019	1.214
78	0.0028	0.0965	1.182
79	0.0060	0.1019	1.214
80	0.0028	0.0965	1.182
81	0.0060	0.1019	1.214
82	0.0028	0.0965	1.182
83	0.0060	0.1019	1.214
84	0.0028	0.0965	1.182
85	0.0039	0.0703	1.258
86	0.0031	0.0705	1.221
87	0.0039	0.0703	1.258

88	0.0031	0.0705	1.221
89	0.0039	0.0703	1.258
90	0.0031	0.0705	1.221
91	0.0039	0.0703	1.258
92	0.0031	0.0705	1.221
93	0.0039	0.0703	1.258
94	0.0031	0.0705	1.221
95	0.0039	0.0703	1.258
96	0.0031	0.0705	1.221

Junction Only Casualty Change Factors

Base Year

2000

Classification	Speed Limit (mph)	Beta Factor		
		Fatal	Serious	Slight
Major	20	0.949	0.962	1.010
Major	30	0.949	0.962	1.010
Major	40	0.949	0.962	1.010
Major	50	0.961	0.959	1.011
Major	60	0.961	0.959	1.011
Major	70	0.961	0.959	1.011
Major	80	0.961	0.959	1.011
Minor	20	0.968	0.958	1.006
Minor	30	0.968	0.958	1.006
Minor	40	0.968	0.958	1.006
Minor	50	0.976	0.972	1.011
Minor	60	0.976	0.972	1.011
Minor	70	0.976	0.972	1.011
Minor	80	0.976	0.972	1.011

Junction Only Casualty Beta Factor Changes over Time

Range of Years	Change to Beta Factor
1995-2010	1.000
2011-2144	0.000

```
*****************************************************************************
*                                                                           *
*        CCC      OOO     BBBB      AAA             L         TTTTT        *
*       C   C    O   O    B   B    A   A            L           T          *
*       C        O   O    B   B    A   A            L           T          *
*       C        O   O    BBBB     AAAAA    ----    L           T          *
*       C        O   O    B   B    A   A            L           T          *
*       C   C    O   O    B   B    A   A            L           T          *
*        CCC      OOO     BBBB     A   A            LLLLL       T          *
*                                                                           *
*****************************************************************************
*                                                                           *
*                                                 Version 2013.02           *
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Written by Roger Himlin

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Input_File_Arundel_Opt3_FINAL.cbo

[Section 1] Summary Statistics

[Section 1.1] Economic Summary

Total Without-Scheme Accident Costs =	582,412.1
Total With-Scheme Accident Costs =	525,261.8
Total Accident Benefits Saved by Scheme =	57,150.2

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 1.2] Accident Summary

Total Without-Scheme Accidents =	11,542.6
Total With-Scheme Accidents =	10,345.1
Total Accidents Saved by Scheme =	1,197.5

[Section 1.3] Casualty Summary

Total Without-Scheme Casualties (Fatal) =	128.1
(Serious) =	1,530.1
(Slight) =	14,105.1
Total With-Scheme Casualties (Fatal) =	119.8
(Serious) =	1,376.8
(Slight) =	12,668.3
Total Casualties Saved by Scheme (Fatal) =	8.3
(Serious) =	153.3
(Slight) =	1,436.8

[Section 2] Accident Statistics

[Section 2.1] Link Accident Statistics

	---------- Without-Scheme ---------			*---------- With-Scheme ----------*			*---------- Benefits ----------*			
	-- Number of Accidents -			Total*	*-- Number of Accidents -*			Total*		
Link Name	*	2023	2038	Total*	Cost*	*	2023	2038	Total*	Cost*	*	2023	2038	Total*	Benefit*
Total		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0

0.0 0.0 0.0 0.0 0.0 0.0

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 2.2] Junction Accident Statistics

	---------- Without-Scheme ---------				*---------- With-Scheme ----------*				*------------ Benefits ------------*	
	-- Number of Accidents -			Total*	*-- Number of Accidents -*			Total*		
Junction Name	*	2023	2038	Total*	Cost*	*	2023	2038	Total*	Cost*
	*	2023	2038	Total*	Benefit*					
Total		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
		0.0	0.0	0.0	0.0					

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 2.3] Combined Link and Junction Accident Statistics

	---------- Without-Scheme ---------				*---------- With-Scheme ----------*				*------------ Benefits ------------*	
	-- Number of Accidents -			Total*	*-- Number of Accidents -*			Total*		
Link Name	*	2023	2038	Total*	Cost*	*	2023	2038	Total*	Cost*
	*	2023	2038	Total*	Benefit*					
12021192		0.0	0.4	24.3	1,726.3		0.1	0.5	29.0	2,064.3
		0.0	-0.1	-4.7	-338.0					
12081202		0.0	0.0	1.9	136.5		0.0	0.0	2.3	162.5
		0.0	0.0	-0.4	-26.0					
12421208		0.3	3.2	195.5	9,121.9		0.4	3.9	234.0	10,930.7
		-0.1	-0.6	-38.6	-1,808.8					
74701242		0.1	0.8	50.0	2,333.9		0.1	0.9	56.0	2,617.5
		0.0	-0.1	-6.0	-283.5					
100011276		0.0	0.2	13.8	645.3		0.0	0.2	10.2	477.1
		0.0	0.1	3.6	168.1					
12941282		0.0	0.4	21.6	1,006.5		0.0	0.3	16.2	757.7
		0.0	0.1	5.3	248.8					
100081316		0.0	0.1	8.9	491.0		0.0	0.1	7.5	415.6
		0.0	0.0	1.4	75.4					
95521316		0.1	0.9	54.0	3,839.2		0.1	0.8	49.2	3,494.6
		0.0	0.1	4.8	344.6					
100321318		0.0	0.2	12.0	559.8		0.0	0.1	7.6	352.4
		0.0	0.1	4.4	207.4					
101241340		0.0	0.7	43.1	2,007.6		0.0	0.8	48.5	2,256.6
		0.0	-0.1	-5.4	-249.1					
13061344		0.0	0.1	7.0	325.8		0.0	0.2	11.4	532.5
		0.0	-0.1	-4.4	-206.7					
13401394		0.1	1.2	72.2	3,361.5		0.1	1.3	81.7	3,803.9
		0.0	-0.2	-9.5	-442.4					

100241396	0.0	0.2	9.1	425.6	0.0	0.1	6.1	284.9	0.0	0.1	3.0	140.7			
13961410	0.0	0.2	14.6	684.0	0.0	0.2	9.5	445.5	0.0	0.1	5.1	238.5			
14201412	0.0	0.2	9.3	435.6	0.0	0.1	8.0	373.0	0.0	0.0	1.3	62.6			
76481412	0.0	0.0	1.6	75.2	0.0	0.0	2.9	134.2	0.0	0.0	-1.3	-59.0			
14121416	0.0	0.1	3.9	181.4	0.0	0.1	3.6	165.8	0.0	0.0	0.3	15.5			
14241418	0.0	0.1	4.9	227.4	0.0	0.1	4.3	200.2	0.0	0.0	0.6	27.2			
14221420	0.2	2.2	135.6	6,327.6	0.2	1.9	112.3	5,237.1	0.1	0.4	23.3	1,090.5			
14281422	0.1	1.4	82.6	3,855.1	0.1	1.2	73.8	3,442.2	0.0	0.1	8.8	412.9			
14401424	0.0	0.0	0.3	16.1	0.0	0.0	0.1	5.8	0.0	0.0	0.2	10.3			
14181428	0.0	0.1	8.1	375.7	0.0	0.1	7.4	344.4	0.0	0.0	0.7	31.3			
17661450	0.1	0.5	28.6	1,333.5	0.0	0.2	10.4	483.7	0.0	0.3	18.2	849.8			
14161456	0.2	1.9	116.2	5,424.0	0.1	1.8	106.4	4,966.7	0.0	0.2	9.7	457.3			
15221490	0.0	0.5	30.8	1,437.1	0.0	0.4	23.2	1,084.3	0.0	0.1	7.6	352.8			
16181490	0.0	0.3	19.9	926.4	0.0	0.5	31.8	1,484.9	0.0	-0.2	-12.0	-558.4			
101261502	0.1	1.3	81.7	3,809.2	0.1	1.5	90.4	4,214.6	0.0	-0.1	-8.7	-405.4			
14921504	0.0	0.1	8.8	412.1	0.0	0.2	9.5	443.1	0.0	0.0	-0.7	-30.9			
16041522	0.1	0.8	46.3	2,159.0	0.1	0.6	34.9	1,629.0	0.0	0.2	11.4	530.0			
15461548	0.0	0.1	4.5	212.1	0.0	0.1	4.8	224.6	0.0	0.0	-0.3	-12.5			
60151556	0.1	0.5	32.9	1,536.9	0.1	0.8	50.0	2,338.0	0.0	-0.3	-17.2	-801.1			
15481562	0.0	0.0	1.0	46.2	0.0	0.0	1.3	58.5	0.0	0.0	-0.3	-12.3			
15621568	0.0	0.1	8.5	397.2	0.0	0.2	9.1	425.9	0.0	0.0	-0.6	-28.7			
15581580	0.1	0.8	46.0	2,143.3	0.1	0.9	52.7	2,454.9	0.0	-0.1	-6.7	-311.6			
74781604	0.0	0.5	29.4	1,372.0	0.0	0.4	22.2	1,035.2	0.0	0.1	7.3	336.8			
18541622	0.0	0.1	3.7	173.3	0.0	0.4	25.6	1,188.5	0.0	-0.4	-21.8	-1,015.2			
79081696	0.0	0.5	31.9	1,488.6	0.0	0.8	50.6	2,355.5	0.0	-0.3	-18.7	-866.9			
18661696	0.1	0.3	20.4	952.5	0.1	0.5	28.2	1,322.0	0.0	-0.1	-7.9	-369.5			
17681706	0.0	0.4	25.2	1,177.8	0.0	0.3	20.2	943.3	0.0	0.1	5.0	234.4			

15681744		0.0		0.2		9.4		668.5		0.0		0.2		12.6		892.1		0.0	
-0.1		-3.1		-223.6															
17801758		0.0		0.1		7.5		348.5		0.0		0.1		9.0		418.9		0.0	
0.0		-1.5		-70.3															
18041764		0.0		0.3		19.4		905.0		0.0		0.3		15.3		713.4		0.0	
0.1		4.1		191.6															
17581764		0.0		0.2		12.5		581.2		0.0		0.3		15.6		725.2		0.0	
-0.1		-3.1		-143.9															
60521766		0.0		0.0		1.1		74.7		0.0		0.0		0.4		27.1		0.0	
0.0		0.7		47.6															
17941768		0.1		0.6		33.4		1,561.8		0.0		0.4		26.6		1,240.5		0.0	
0.1		6.8		321.3															
17061768		0.0		0.3		17.4		813.0		0.0		0.2		12.3		572.2		0.0	
0.1		5.2		240.9															
60521794		0.0		0.1		3.2		151.5		0.0		0.0		2.6		119.2		0.0	
0.0		0.7		32.2															
17681794		0.0		0.4		23.6		1,099.6		0.0		0.3		16.6		773.9		0.0	
0.1		7.0		325.8															
18161804		0.0		0.1		7.2		335.1		0.0		0.1		6.2		287.9		0.0	
0.0		1.0		47.2															
18341816		0.0		0.0		2.9		136.0		0.0		0.0		2.5		116.8		0.0	
0.0		0.4		19.2															
18341828		0.0		0.0		1.8		84.8		0.0		0.0		2.1		97.7		0.0	
0.0		-0.3		-12.9															
19881844		0.1		0.8		47.8		2,232.3		0.1		0.7		41.2		1,922.3		0.0	
0.1		6.6		310.0															
76441848		0.0		0.3		17.6		1,251.7		0.0		0.2		12.0		854.5		0.0	
0.1		5.6		397.3															
17941848		0.0		0.1		3.0		216.5		0.0		0.0		2.4		167.1		0.0	
0.0		0.7		49.5															
79361854		0.0		0.1		6.4		454.9		0.0		0.2		12.7		904.3		0.0	
-0.1		-6.3		-449.4															
79061866		0.0		0.2		14.7		686.6		0.1		0.3		20.4		952.9		0.0	
-0.1		-5.7		-266.4															
16961866		0.0		0.3		18.4		856.0		0.0		0.5		29.5		1,374.2		0.0	
-0.2		-11.2		-518.2															
18781874		0.0		0.0		1.8		84.1		0.0		0.0		2.3		105.4		0.0	
0.0		-0.5		-21.3															
76181874		0.0		0.2		11.0		513.3		0.0		0.3		16.5		770.1		0.0	
-0.1		-5.5		-256.8															
101691878		0.0		0.1		5.3		247.0		0.0		0.2		10.7		497.4		0.0	
-0.1		-5.4		-250.4															
19601956		0.0		0.1		8.0		374.3		0.0		0.1		8.7		405.0		0.0	
0.0		-0.7		-30.7															
76441956		0.0		0.3		15.7		1,116.5		0.0		0.2		13.0		925.1		0.0	
0.0		2.7		191.4															
95251960		0.1		1.1		67.5		3,147.9		0.1		1.4		83.0		3,874.7		0.0	
-0.3		-15.5		-726.8															
19561962		0.0		0.1		4.5		208.9		0.0		0.1		5.3		245.4		0.0	
0.0		-0.8		-36.5															
19741970		0.0		0.1		4.4		203.9		0.0		0.1		4.7		219.0		0.0	
0.0		-0.3		-15.1															
19621974		0.0		0.0		1.7		78.5		0.0		0.0		1.4		66.6		0.0	
0.0		0.3		11.9															

90161994	0.0	0.1	7.2	399.1	0.0	0.1	8.8	487.3	0.0	0.0	-1.6	-88.2			
19621994	0.1	0.7	44.7	2,084.1	0.1	1.1	68.7	3,209.0	-0.1	-0.4	-24.0	-1,124.9			
19841996	0.1	1.3	77.3	3,606.3	0.1	1.4	82.2	3,836.8	0.0	-0.1	-4.9	-230.5			
20842002	0.2	2.3	141.2	6,587.2	0.2	2.5	152.0	7,090.9	0.0	-0.2	-10.8	-503.7			
20722012	0.0	0.3	17.2	951.2	0.0	0.4	26.7	1,473.7	0.0	-0.2	-9.5	-522.5			
95192016	0.1	1.2	73.0	3,406.8	0.1	1.3	78.2	3,647.9	0.0	-0.1	-5.2	-241.1			
75962018	0.1	0.7	40.4	1,884.6	0.1	0.7	43.1	2,012.6	0.0	0.0	-2.7	-128.1			
20482030	0.0	0.1	5.0	234.9	0.0	0.1	5.4	252.8	0.0	0.0	-0.4	-17.9			
19742030	0.0	0.2	10.4	484.8	0.0	0.1	7.9	369.7	0.0	0.0	2.5	115.1			
20302034	0.0	0.0	2.3	106.6	0.0	0.0	1.7	81.2	0.0	0.0	0.5	25.3			
20122034	0.0	0.2	10.6	753.2	0.0	0.3	17.8	1,261.0	0.0	-0.1	-7.2	-507.8			
100582038	0.1	0.9	55.3	2,582.1	0.1	1.1	64.6	3,013.6	0.0	-0.2	-9.2	-431.6			
20442038	0.1	1.0	62.7	2,927.6	0.1	1.1	67.7	3,160.6	0.0	-0.1	-5.0	-233.0			
20382044	0.1	1.0	63.3	2,954.1	0.1	1.2	69.8	3,255.5	0.0	-0.1	-6.4	-301.3			
20342046	0.0	0.0	2.4	112.0	0.0	0.0	2.9	136.1	0.0	0.0	-0.5	-24.1			
76382058	0.0	0.5	29.1	2,065.1	0.1	0.6	33.3	2,366.8	0.0	-0.1	-4.2	-301.7			
20462058	0.0	0.1	4.4	203.0	0.0	0.1	5.3	246.7	0.0	0.0	-0.9	-43.7			
20962066	0.1	0.6	33.7	1,862.8	0.1	0.6	38.4	2,121.0	0.0	-0.1	-4.7	-258.2			
19942070	0.1	0.7	42.0	2,319.7	0.1	0.9	56.5	3,125.1	0.0	-0.2	-14.5	-805.5			
21102072	0.1	1.0	59.2	3,273.2	0.1	1.5	92.1	5,083.8	0.0	-0.5	-32.8	-1,810.5			
90152076	0.0	0.1	6.6	367.3	0.0	0.2	9.8	541.3	0.0	-0.1	-3.2	-174.0			
73722084	0.2	2.1	129.3	6,035.3	0.2	2.3	139.2	6,496.8	0.0	-0.2	-9.9	-461.5			
76362086	0.1	0.7	40.1	1,868.9	0.1	0.9	52.7	2,460.0	0.0	-0.2	-12.7	-591.2			
95092086	0.0	0.1	5.3	245.6	0.0	0.1	5.7	265.9	0.0	0.0	-0.4	-20.3			
21742088	0.0	0.2	9.7	450.5	0.0	0.3	20.6	955.3	0.0	-0.2	-10.9	-504.9			
95022088	0.0	0.1	6.8	317.8	0.1	0.5	32.0	1,496.7	-0.1	-0.4	-25.2	-1,178.9			
100562096	0.1	0.6	34.1	1,593.2	0.1	0.6	38.8	1,813.9	0.0	-0.1	-4.7	-220.8			

20762096	0.0	0.5	30.3	1,673.1	0.1	0.7	40.3	2,228.6	0.0	-0.2	-10.1	-555.5		
21702102	0.0	0.2	11.8	550.7	0.0	0.3	16.3	764.3	0.0	-0.1	-4.6	-213.6		
79062102	0.0	0.2	13.2	617.0	0.0	0.4	21.3	990.5	0.0	-0.1	-8.0	-373.5		
95032106	0.1	0.8	45.6	2,518.7	0.1	1.1	65.9	3,644.2	-0.1	-0.3	-20.3	-1,125.4		
21062108	0.0	0.1	8.2	382.0	0.0	0.0	3.0	138.6	0.0	0.1	5.2	243.3		
21302110	0.1	0.6	33.5	1,850.1	0.1	0.9	57.5	3,173.5	0.0	-0.4	-24.0	-1,323.4		
95052110	0.0	0.8	50.5	2,344.4	0.0	0.0	1.0	44.5	0.0	0.8	49.5	2,299.9		
21082112	0.0	0.1	3.5	163.9	0.0	0.0	0.8	39.5	0.0	0.0	2.7	124.4		
21482130	0.0	0.2	12.9	600.9	0.0	0.1	7.1	330.1	0.0	0.1	5.8	270.7		
21402148	0.0	0.0	0.4	16.3	0.0	0.0	0.7	34.6	0.0	0.0	-0.4	-18.3		
23442164	0.2	1.0	58.5	2,738.1	0.1	0.7	43.6	2,043.0	0.0	0.2	14.9	695.1		
74762170	0.0	0.2	11.3	526.9	0.0	0.3	15.2	710.0	0.0	-0.1	-3.9	-183.1		
21022170	0.0	0.2	10.6	494.9	0.0	0.3	17.1	794.5	0.0	-0.1	-6.5	-299.6		
22162174	0.0	0.0	2.7	191.4	0.0	0.0	1.8	127.8	0.0	0.0	0.9	63.6		
20882174	0.0	0.0	0.0	1.2	0.1	0.5	31.3	1,462.8	-0.1	-0.5	-31.3	-1,461.6		
74762174	0.0	0.2	13.7	636.8	0.0	0.3	16.9	785.1	0.0	-0.1	-3.2	-148.3		
73712182	0.0	0.2	10.4	485.9	0.0	0.2	11.2	524.1	0.0	0.0	-0.8	-38.2		
22242198	0.1	1.1	64.5	3,012.1	0.1	0.7	41.6	1,941.0	0.0	0.4	23.0	1,071.1		
23062216	0.1	0.6	38.6	1,802.7	0.1	0.4	25.7	1,203.3	0.0	0.2	12.9	599.4		
22482218	0.0	0.0	2.4	132.1	0.0	0.0	2.7	149.8	0.0	0.0	-0.3	-17.6		
74742220	0.0	0.3	19.2	899.5	0.1	0.5	29.3	1,368.4	0.0	-0.2	-10.1	-468.9		
22702224	0.2	1.7	100.7	4,699.3	0.1	1.0	59.9	2,794.5	0.1	0.7	40.9	1,904.8		
21982224	0.1	0.9	55.4	2,584.6	0.1	0.4	22.5	1,054.7	0.0	0.5	32.8	1,529.8		
22462244	0.0	0.1	3.8	179.4	0.0	0.1	3.2	149.7	0.0	0.0	0.6	29.7		
90092246	0.0	0.4	21.9	1,021.7	0.0	0.3	15.8	736.1	0.0	0.1	6.1	285.6		
22442252	0.0	0.1	4.4	207.1	0.0	0.1	3.5	165.3	0.0	0.0	0.9	41.7		
22522260	0.0	0.1	4.2	198.0	0.0	0.1	3.5	164.7	0.0	0.0	0.7	33.3		

22742268	0.0	0.1	4.1	190.4	0.0	0.1	3.5	161.8	0.0	0.0	0.6	28.6			
95272270	0.1	1.0	62.8	2,931.9	0.1	0.8	48.4	2,260.1	0.0	0.2	14.4	671.7			
75742270	0.0	0.5	27.8	1,298.5	0.0	0.1	9.0	418.6	0.0	0.3	18.9	879.8			
22242270	0.1	1.4	82.6	3,856.2	0.1	0.5	32.3	1,513.9	0.1	0.8	50.3	2,342.2			
22802272	0.0	0.3	15.8	734.2	0.0	0.2	13.3	618.4	0.0	0.0	2.5	115.8			
22722274	0.0	0.1	4.6	216.7	0.0	0.1	3.9	183.8	0.0	0.0	0.7	32.9			
76782280	0.1	1.2	75.4	5,349.2	0.1	1.0	63.5	4,505.1	0.0	0.2	11.9	844.0			
22602280	0.0	0.3	19.0	885.0	0.0	0.3	15.7	731.1	0.0	0.1	3.3	153.9			
23082306	0.0	0.1	6.0	332.2	0.0	0.1	8.1	447.1	0.0	0.0	-2.1	-114.8			
60472308	0.0	0.0	1.0	44.5	0.0	0.0	1.9	90.3	0.0	0.0	-1.0	-45.7			
60482308	0.0	0.0	0.9	48.2	0.0	0.0	1.0	55.9	0.0	0.0	-0.1	-7.7			
23742310	0.0	0.4	23.8	1,316.0	0.0	0.5	29.8	1,647.2	0.0	-0.1	-6.0	-331.2			
24202310	0.0	0.2	12.7	589.3	0.0	0.7	41.1	1,910.2	0.0	-0.5	-28.4	-1,320.9			
60482312	0.0	0.0	0.8	38.5	0.0	0.0	1.4	67.3	0.0	0.0	-0.6	-28.8			
60472312	0.0	0.0	0.8	41.6	0.0	0.0	1.0	55.6	0.0	0.0	-0.3	-14.0			
23902316	0.2	1.6	95.8	4,471.0	0.0	0.1	4.7	218.9	0.1	1.5	91.2	4,252.0			
24162316	0.0	0.1	6.4	456.8	0.0	0.3	18.5	1,311.4	0.0	-0.2	-12.1	-854.7			
60502316	0.0	0.3	15.2	712.8	0.0	0.0	1.7	77.4	0.0	0.2	13.5	635.4			
95272316	0.1	1.0	61.8	2,883.0	0.1	0.5	32.2	1,506.4	0.0	0.5	29.7	1,376.6			
23062324	0.0	0.3	19.7	1,090.3	0.0	0.5	30.4	1,678.5	0.0	-0.2	-10.7	-588.2			
23582346	0.0	0.1	5.7	267.8	0.0	0.1	5.3	245.2	0.0	0.0	0.5	22.6			
23782358	0.0	0.3	15.4	849.9	0.0	0.2	13.3	735.2	0.0	0.0	2.1	114.7			
23742372	0.0	0.0	2.2	104.5	0.0	0.0	0.4	20.1	0.0	0.0	1.8	84.4			
23242372	0.0	0.1	6.8	375.0	0.0	0.2	9.2	508.5	0.0	0.0	-2.4	-133.4			
23822374	0.0	0.1	5.1	238.4	0.0	0.1	3.8	178.0	0.0	0.0	1.3	60.4			
23722378	0.0	0.1	4.7	217.2	0.0	0.1	4.1	189.7	0.0	0.0	0.6	27.5			
74822380	0.0	0.1	7.5	352.9	0.0	0.3	20.9	971.2	0.0	-0.2	-13.3	-618.3			

23842382	0.0	0.1	5.2	244.9	0.0	0.1	5.0	231.4	0.0	0.0	0.3	13.4	
24082382	0.0	0.4	25.4	1,806.3	0.0	0.1	5.6	404.2	0.0	0.3	19.8	1,402.0	
23922390	0.2	1.8	109.5	5,111.3	0.0	0.1	5.3	250.2	0.1	1.7	104.2	4,861.2	
23162390	0.2	1.7	104.2	4,862.3	0.0	0.2	10.1	469.8	0.2	1.6	94.1	4,392.5	
23902392	0.2	2.0	119.0	5,558.5	0.0	0.2	11.5	537.1	0.2	1.8	107.5	5,021.4	
25162406	0.1	1.4	83.4	5,918.4	0.2	1.7	101.3	7,197.2	0.0	-0.3	-17.9	-1,278.8	
76382406	0.0	0.2	11.4	808.2	0.0	0.3	17.9	1,271.6	0.0	-0.1	-6.5	-463.3	
24202408	0.0	0.2	10.7	763.2	0.0	0.0	2.4	176.2	0.0	0.1	8.3	587.1	
23822408	0.0	0.4	26.9	1,912.6	0.0	0.3	16.3	1,163.2	0.0	0.2	10.6	749.5	
75722416	0.0	0.3	20.3	1,444.5	0.0	0.6	35.1	2,488.2	0.0	-0.2	-14.8	-1,043.7	
60492416	0.0	0.2	11.3	527.2	0.0	0.0	0.5	25.5	0.0	0.2	10.7	501.7	
23162416	0.0	0.0	2.8	202.4	0.0	0.1	8.4	595.0	0.0	-0.1	-5.5	-392.7	
74842420	0.0	0.0	0.3	14.7	0.0	0.2	12.0	558.9	0.0	-0.2	-11.7	-544.2	
24362420	0.1	0.8	50.9	2,376.7	0.1	0.6	34.0	1,591.7	0.0	0.3	16.9	785.0	
24082420	0.0	0.2	11.4	809.5	0.0	0.1	7.0	496.0	0.0	0.1	4.4	313.5	
24782436	0.0	0.2	11.6	644.0	0.0	0.1	7.6	422.4	0.0	0.1	4.0	221.6	
23122436	0.0	0.1	4.4	310.7	0.0	0.0	0.6	46.5	0.0	0.1	3.7	264.2	
24202436	0.1	0.8	48.4	2,256.5	0.1	0.6	37.1	1,729.4	0.0	0.2	11.3	527.1	
74862478	0.1	1.2	71.6	5,088.7	0.1	0.8	46.9	3,338.0	0.0	0.4	24.7	1,750.7	
24362478	0.0	0.2	12.3	677.0	0.0	0.1	8.4	465.3	0.0	0.1	3.8	211.7	
24922482	0.0	0.0	1.0	44.9	0.0	0.0	29.7	1,304.4	0.0	0.0	-28.7	-1,259.5	
74842482	0.0	0.0	0.6	27.4	0.0	0.2	12.0	558.3	0.0	-0.2	-11.4	-530.9	
24822492	0.0	0.0	1.6	73.3	0.0	0.5	32.2	1,493.2	0.0	-0.5	-30.6	-1,419.9	
74822492	0.0	0.0	1.7	79.7	0.0	0.3	15.8	734.4	0.0	-0.2	-14.1	-654.8	
25122506	0.0	0.1	4.3	202.2	0.0	0.1	4.8	223.8	0.0	0.0	-0.5	-21.6	
25062508	0.0	0.0	1.5	71.3	0.0	0.0	1.9	88.7	0.0	0.0	-0.4	-17.3	
25182512	0.0	0.1	4.3	201.4	0.0	0.1	4.8	223.8	0.0	0.0	-0.5	-22.4	

25082516	0.0	0.1	4.3	199.0	0.0	0.1	4.7	217.2	0.0	0.0	-0.4	-18.3			
24062516	0.1	0.8	50.3	3,565.6	0.1	1.3	81.5	5,781.3	0.0	-0.5	-31.3	-2,215.7			
25262518	0.0	0.1	5.5	302.7	0.0	0.1	6.0	331.1	0.0	0.0	-0.5	-28.4			
25162520	0.0	0.1	3.8	179.4	0.0	0.1	4.7	218.1	0.0	0.0	-0.8	-38.7			
25482526	0.0	0.2	11.5	638.1	0.0	0.2	12.7	700.9	0.0	0.0	-1.1	-62.8			
25202536	0.0	0.1	7.0	387.0	0.0	0.1	8.4	463.5	0.0	0.0	-1.4	-76.6			
25762546	0.2	3.2	194.0	9,038.1	0.2	2.8	167.8	7,818.2	0.0	0.4	26.2	1,219.9			
76782546	0.1	1.1	68.6	4,874.5	0.1	0.9	56.7	4,026.3	0.0	0.2	11.9	848.2			
25842548	0.0	0.3	18.8	1,037.9	0.0	0.3	20.6	1,141.0	0.0	0.0	-1.9	-103.1			
25362568	0.0	0.2	14.6	807.1	0.0	0.3	17.5	966.8	0.0	0.0	-2.9	-159.7			
90052576	0.2	3.5	211.7	9,859.8	0.2	3.0	181.5	8,461.1	0.0	0.5	30.1	1,398.6			
25462576	0.3	3.6	216.0	10,070.4	0.2	3.0	184.2	8,582.9	0.1	0.5	31.8	1,487.5			
27082584	0.1	0.9	56.2	3,104.0	0.1	1.0	61.7	3,412.3	0.0	-0.1	-5.6	-308.2			
25942592	0.0	0.1	6.8	316.3	0.0	0.1	5.4	251.1	0.0	0.0	1.4	65.2			
95392592	0.0	0.0	1.6	91.1	0.0	0.0	1.1	62.5	0.0	0.0	0.5	28.5			
25982596	0.0	0.1	7.5	348.8	0.0	0.1	6.4	297.2	0.0	0.0	1.1	51.6			
75702596	0.0	0.5	27.3	1,942.2	0.0	0.4	22.7	1,613.1	0.0	0.1	4.6	329.0			
26422598	0.1	0.6	39.2	2,789.7	0.1	0.8	46.4	3,294.2	0.0	-0.1	-7.1	-504.5			
25922598	0.0	0.2	14.6	681.3	0.0	0.2	11.8	552.1	0.0	0.0	2.8	129.2			
26162610	0.0	0.4	26.5	1,237.2	0.0	0.4	22.0	1,027.4	0.0	0.1	4.5	209.7			
75702610	0.0	0.4	22.2	1,574.0	0.0	0.2	14.0	995.7	0.0	0.1	8.2	578.3			
26342616	0.1	0.6	39.1	2,778.9	0.1	0.5	32.3	2,295.3	0.0	0.1	6.8	483.6			
26102616	0.0	0.4	24.5	1,140.4	0.0	0.3	15.5	721.4	0.0	0.1	9.0	419.0			
75762634	0.1	1.0	58.4	2,725.4	0.1	0.8	48.2	2,251.2	0.0	0.2	10.1	474.2			
26162634	0.1	0.6	38.2	2,710.1	0.0	0.4	24.7	1,758.6	0.0	0.2	13.4	951.5			
90052638	0.2	1.9	115.0	5,361.2	0.1	1.5	92.7	4,320.8	0.0	0.4	22.3	1,040.4			
26382640	0.0	0.1	4.9	347.7	0.0	0.1	4.0	282.3	0.0	0.0	0.9	65.3			

27022642	0.0	0.2	14.8	1,049.7	0.0	0.3	17.4	1,239.6	0.0	0.0	-2.7	-189.8			
26902676	0.1	0.6	38.6	1,802.3	0.1	0.5	31.9	1,488.7	0.0	0.1	6.7	313.6			
75762676	0.1	0.8	51.4	2,396.9	0.1	0.6	33.3	1,555.6	0.0	0.3	18.1	841.3			
60362690	0.8	7.1	428.5	20,011.5	0.6	5.8	354.1	16,529.5	0.2	1.2	74.4	3,482.0			
26762690	0.1	0.6	37.7	1,757.7	0.0	0.4	24.4	1,140.8	0.0	0.2	13.3	617.0			
27142706	0.1	1.1	66.1	3,083.2	0.1	0.9	53.4	2,489.7	0.0	0.2	12.7	593.5			
27102708	0.0	0.1	5.3	249.7	0.0	0.1	5.0	232.7	0.0	0.0	0.4	16.9			
75882710	0.1	1.4	84.7	3,951.4	0.1	1.2	71.7	3,339.1	0.0	0.2	13.1	612.3			
27082712	0.0	0.1	5.1	236.9	0.0	0.1	3.9	181.2	0.0	0.0	1.2	55.8			
25682712	0.1	0.7	45.1	2,492.8	0.1	0.9	54.1	2,986.0	0.0	-0.1	-9.0	-493.3			
27282714	0.2	2.0	119.8	5,587.5	0.1	1.6	96.8	4,511.9	0.1	0.4	23.0	1,075.6			
27122716	0.0	0.0	2.9	133.5	0.0	0.0	2.7	127.5	0.0	0.0	0.1	6.0			
27222720	0.0	0.1	5.9	274.8	0.0	0.1	5.5	255.2	0.0	0.0	0.4	19.6			
27262722	0.0	0.0	2.8	129.5	0.0	0.0	2.3	108.0	0.0	0.0	0.5	21.4			
27422722	0.0	0.3	15.2	842.5	0.0	0.2	14.1	782.2	0.0	0.0	1.1	60.3			
73462724	0.0	0.0	2.9	136.3	0.0	0.0	1.9	91.2	0.0	0.0	1.0	45.1			
27162724	0.0	0.1	5.3	248.6	0.0	0.1	6.2	287.5	0.0	0.0	-0.8	-39.0			
26402728	0.5	6.2	377.2	17,588.1	0.3	4.9	298.8	13,924.5	0.2	1.3	78.4	3,663.7			
73462740	0.5	4.8	292.3	13,650.5	0.3	3.4	208.7	9,738.8	0.2	1.4	83.6	3,911.7			
27482740	0.1	0.6	35.2	1,644.4	0.1	0.4	21.7	1,016.5	0.0	0.2	13.5	628.0			
28162744	0.0	1.1	64.3	2,987.5	0.0	0.0	36.6	1,611.4	0.0	1.1	27.7	1,376.1			
27542748	0.0	0.3	18.0	840.3	0.0	0.2	10.9	510.4	0.0	0.1	7.1	329.9			
27402748	0.1	0.8	51.3	2,394.8	0.1	0.7	44.6	2,083.7	0.0	0.1	6.6	311.1			
75782750	0.0	0.2	11.3	801.5	0.0	0.2	9.3	662.0	0.0	0.0	2.0	139.5			
60362750	0.0	0.4	27.1	1,921.9	0.0	0.3	17.5	1,247.4	0.0	0.2	9.5	674.5			
27642754	0.0	0.3	20.6	964.1	0.0	0.2	12.5	585.6	0.0	0.1	8.1	378.5			
27482754	0.1	0.5	27.6	1,291.1	0.0	0.4	24.0	1,122.3	0.0	0.1	3.6	168.8			

27662762		0.1	0.8	51.2	2,386.3	0.1	0.5	33.2	1,548.7	0.0	0.3	18.0	837.6		
27642762		0.0	0.1	6.8	315.8	0.0	0.1	5.2	241.5	0.0	0.0	1.6	74.3		
27702764		0.0	0.1	6.8	315.9	0.0	0.0	1.4	63.8	0.0	0.1	5.4	252.1		
27542764		0.1	0.5	31.7	1,481.3	0.0	0.5	27.6	1,289.7	0.0	0.1	4.1	191.6		
27622764		0.0	0.1	6.1	282.3	0.0	0.1	3.9	183.2	0.0	0.0	2.1	99.1		
27622766		0.1	0.9	56.1	2,619.8	0.1	0.7	43.7	2,041.2	0.0	0.2	12.4	578.6		
75782766		0.1	0.7	39.5	1,843.0	0.0	0.4	25.6	1,196.1	0.0	0.2	13.9	646.9		
75802770		0.0	0.2	11.8	548.9	0.0	0.0	1.7	79.8	0.0	0.2	10.1	469.1		
27642770		0.0	0.2	12.6	585.6	0.0	0.1	9.0	418.4	0.0	0.1	3.6	167.2		
27402792		0.1	0.5	30.5	1,423.7	0.0	0.1	4.5	207.0	0.0	0.4	26.1	1,216.7		
75802792		0.0	0.3	20.6	955.9	0.0	0.2	14.7	683.1	0.0	0.1	5.9	272.8		
28042808		0.0	0.1	8.5	393.8	0.0	0.1	5.9	274.3	0.0	0.0	2.6	119.5		
28082816		0.0	0.6	34.3	1,591.6	0.0	0.0	19.5	855.8	0.0	0.6	14.8	735.8		
22206015		0.1	0.5	30.0	2,139.4	0.1	0.8	45.7	3,254.6	0.0	-0.3	-15.7	-1,115.2		
16226016		0.0	0.0	0.8	38.8	0.0	0.1	3.4	158.7	0.0	0.0	-2.6	-119.9		
13446018		0.0	0.0	2.0	94.9	0.0	0.1	4.0	186.7	0.0	0.0	-2.0	-91.7		
27506036		0.1	0.5	27.7	1,970.9	0.0	0.4	22.9	1,627.9	0.0	0.1	4.8	343.0		
26906036		0.6	6.9	418.6	19,516.3	0.5	4.5	271.3	12,666.0	0.1	2.4	147.3	6,850.3		
23106047		0.0	0.1	5.1	280.4	0.0	0.1	7.3	402.9	0.0	0.0	-2.2	-122.5		
95006048		0.0	0.4	24.2	1,335.9	0.0	0.5	32.3	1,784.8	0.0	-0.1	-8.1	-448.9		
60506049		0.0	0.0	1.6	75.2	0.0	0.0	0.1	5.3	0.0	0.0	1.5	69.9		
24166049		0.0	0.3	18.2	846.8	0.0	0.0	0.7	32.0	0.0	0.3	17.5	814.8		
60516050		0.0	0.0	2.2	101.0	0.0	0.0	0.2	9.5	0.0	0.0	2.0	91.5		
23166050		0.0	0.3	18.7	872.1	0.0	0.0	1.4	64.8	0.0	0.3	17.3	807.3		
75746051		0.0	0.3	18.2	850.5	0.0	0.0	1.7	80.1	0.0	0.3	16.4	770.3		
60496051		0.0	0.1	4.1	189.7	0.0	0.0	0.3	12.0	0.0	0.1	3.8	177.7		
18486052		0.0	0.1	4.7	336.2	0.0	0.1	3.2	229.5	0.0	0.0	1.5	106.7		

27407346		0.4	3.6	218.7	10,211.8	0.3	2.4	146.1	6,831.5	0.1	1.2	72.6	3,380.3
27167346		0.0	0.1	4.7	221.4	0.0	0.1	3.4	158.0	0.0	0.0	1.4	63.4
22187371		0.0	0.2	13.7	754.9	0.0	0.2	14.7	814.2	0.0	0.0	-1.1	-59.4
73767372		0.0	0.1	7.6	353.7	0.0	0.1	8.2	381.1	0.0	0.0	-0.6	-27.3
73777376		0.0	0.1	4.2	198.3	0.0	0.1	4.6	213.3	0.0	0.0	-0.3	-15.0
21827377		0.0	0.1	4.2	194.7	0.0	0.1	4.5	209.4	0.0	0.0	-0.3	-14.7
12507470		0.1	0.7	45.3	2,114.3	0.1	0.8	50.8	2,371.1	0.0	-0.1	-5.5	-256.9
23167474		0.1	0.4	22.7	1,061.2	0.1	0.6	37.0	1,730.4	0.0	-0.2	-14.3	-669.2
21747476		0.0	0.2	14.8	689.9	0.0	0.3	19.6	915.2	0.0	-0.1	-4.8	-225.3
21707476		0.0	0.2	10.5	491.1	0.0	0.2	13.2	613.1	0.0	0.0	-2.6	-122.0
74797478		0.1	0.8	49.3	2,298.1	0.1	0.6	36.1	1,689.7	0.0	0.2	13.1	608.4
24927482		0.0	0.1	7.3	343.4	0.0	0.3	19.4	903.5	0.0	-0.2	-12.1	-560.1
23807482		0.0	0.0	1.3	62.8	0.0	0.3	16.9	785.7	0.0	-0.3	-15.6	-723.0
24207484		0.0	0.0	0.5	24.0	0.0	0.2	10.5	488.3	0.0	-0.2	-10.0	-464.3
24827484		0.0	0.0	0.4	16.8	0.0	0.0	11.1	487.7	0.0	0.0	-10.7	-471.0
95397486		0.1	1.4	87.4	6,210.9	0.1	0.9	57.5	4,097.4	0.0	0.5	29.9	2,113.5
24787486		0.1	1.2	75.4	5,349.3	0.1	0.9	51.7	3,676.8	0.0	0.4	23.6	1,672.5
26107570		0.0	0.4	24.0	1,707.3	0.0	0.3	20.0	1,418.1	0.0	0.1	4.1	289.3
25967570		0.0	0.4	25.2	1,790.4	0.0	0.3	15.9	1,132.7	0.0	0.2	9.3	657.8
25947572		0.0	0.5	28.7	2,040.0	0.0	0.8	47.0	3,331.6	0.0	-0.3	-18.3	-1,291.6
24167572		0.0	0.2	10.5	745.0	0.0	0.3	16.0	1,136.8	0.0	-0.1	-5.5	-391.8
60517574		0.0	0.4	24.5	1,141.2	0.0	0.0	1.6	72.5	0.0	0.4	22.9	1,068.7
22707574		0.0	0.2	13.9	652.3	0.0	0.0	1.0	44.9	0.0	0.2	13.0	607.4
26347576		0.1	0.9	57.0	2,657.9	0.1	0.6	37.0	1,725.0	0.0	0.3	20.1	932.9
26767576		0.1	0.9	52.6	2,457.7	0.1	0.7	43.5	2,030.1	0.0	0.2	9.1	427.6
27507578		0.0	0.2	11.0	781.6	0.0	0.1	7.1	507.3	0.0	0.1	3.9	274.3
27667578		0.1	0.7	40.5	1,889.7	0.1	0.6	33.4	1,560.9	0.0	0.1	7.0	328.8

27927580	0.0	0.3	15.4	716.3	0.0	0.0	2.2	104.1	0.0	0.2	13.1	612.2		
27707580	0.0	0.3	15.8	732.5	0.0	0.2	11.3	523.4	0.0	0.1	4.5	209.1		
27067588	0.1	1.2	72.8	3,396.2	0.1	1.0	61.6	2,869.9	0.0	0.2	11.2	526.3		
90147596	0.0	0.5	28.4	1,323.8	0.0	0.5	30.3	1,413.7	0.0	0.0	-1.9	-90.0		
20447616	0.1	1.9	114.5	5,337.1	0.1	1.7	102.3	4,771.3	0.0	0.2	12.2	565.8		
65027618	0.0	0.2	10.6	494.5	0.0	0.3	17.1	799.2	0.0	-0.1	-6.5	-304.7		
20867636	0.1	0.7	43.2	2,016.7	0.1	0.8	48.7	2,275.5	0.0	-0.1	-5.5	-258.8		
100567636	0.0	0.3	20.9	974.5	0.0	0.5	27.5	1,282.8	0.0	-0.1	-6.6	-308.3		
20587638	0.0	0.2	14.9	1,058.7	0.0	0.4	22.9	1,621.0	0.0	-0.1	-7.9	-562.3		
24067638	0.0	0.4	23.1	1,637.4	0.0	0.4	26.7	1,894.2	0.0	-0.1	-3.6	-256.8		
19567644	0.0	0.4	21.2	1,510.4	0.0	0.3	15.6	1,110.8	0.0	0.1	5.6	399.5		
18487644	0.0	0.2	11.4	810.0	0.0	0.1	8.8	625.0	0.0	0.0	2.6	185.0		
60187648	0.0	0.0	1.2	54.4	0.0	0.0	2.3	107.0	0.0	0.0	-1.1	-52.6		
13067656	0.0	0.2	13.8	643.4	0.0	0.1	8.3	385.4	0.0	0.1	5.5	258.1		
60167672	0.0	0.0	1.1	50.4	0.0	0.1	4.4	206.3	0.0	-0.1	-3.4	-155.8		
22807678	0.1	1.3	80.8	5,737.5	0.1	1.1	66.8	4,739.1	0.0	0.2	14.0	998.4		
25467678	0.1	1.1	64.0	4,544.6	0.1	0.9	53.9	3,827.5	0.0	0.2	10.1	717.1		
21027906	0.0	0.2	14.7	686.6	0.1	0.3	20.4	952.9	0.0	-0.1	-5.7	-266.4		
18667906	0.0	0.2	13.2	617.0	0.0	0.4	21.3	990.5	0.0	-0.1	-8.0	-373.5		
79097908	0.0	0.1	5.8	272.1	0.0	0.2	9.8	454.4	0.0	-0.1	-3.9	-182.4		
18547936	0.0	0.1	7.8	557.2	0.0	0.2	10.1	716.4	0.0	0.0	-2.2	-159.2		
15027944	0.1	1.2	73.5	3,423.7	0.1	1.3	81.4	3,794.3	0.0	-0.1	-8.0	-370.5		
26389005	0.1	1.6	97.7	4,550.9	0.1	1.4	82.2	3,831.5	0.0	0.3	15.5	719.4		
25769005	0.3	4.0	242.4	11,302.1	0.3	3.4	204.6	9,536.5	0.1	0.6	37.8	1,765.6		
22489009	0.0	0.3	15.9	739.3	0.0	0.2	11.4	532.6	0.0	0.1	4.4	206.6		
20169014	0.0	0.1	5.6	263.2	0.0	0.1	6.1	283.5	0.0	0.0	-0.4	-20.4		
20129015	0.0	0.3	17.2	1,219.5	0.0	0.4	25.3	1,797.1	0.0	-0.1	-8.1	-577.6		

20669016	0.0	0.1	6.9	379.7	0.0	0.1	8.4	463.6	0.0	0.0	-1.5	-83.9			
95009501	0.0	0.0	0.0	0.0	0.1	0.6	38.4	1,797.9	-0.1	-0.6	-38.4	-1,797.9			
95019502	0.0	0.0	0.0	0.0	0.1	0.6	38.4	1,797.9	-0.1	-0.6	-38.4	-1,797.9			
20889502	0.0	0.3	15.7	730.8	0.0	0.0	19.2	844.3	0.0	0.3	-3.5	-113.5			
20709503	0.1	0.6	38.5	2,128.6	0.1	0.9	53.8	2,973.3	0.0	-0.3	-15.2	-844.7			
100589509	0.2	1.6	94.1	4,393.8	0.2	1.7	102.4	4,782.5	0.0	-0.1	-8.3	-388.7			
20869509	0.0	0.1	4.6	216.3	0.0	0.1	5.6	261.7	0.0	0.0	-1.0	-45.4			
19969519	0.0	0.3	21.0	980.4	0.0	0.4	22.3	1,042.9	0.0	0.0	-1.3	-62.5			
17449525	0.1	1.1	67.5	3,150.6	0.1	1.4	83.1	3,879.6	0.0	-0.3	-15.6	-729.1			
23169527	0.1	1.1	65.2	3,042.3	0.1	0.8	50.3	2,347.3	0.0	0.2	14.9	695.0			
22709527	0.1	1.0	61.7	2,874.3	0.1	0.5	32.3	1,511.4	0.0	0.5	29.4	1,362.9			
25929539	0.0	0.0	1.6	86.6	0.0	0.0	1.0	57.2	0.0	0.0	0.5	29.5			
74869539	0.1	1.5	92.0	6,527.2	0.1	1.0	63.1	4,481.6	0.0	0.5	28.9	2,045.6			
13169552	0.1	0.8	45.7	3,253.8	0.1	0.6	39.3	2,793.9	0.0	0.1	6.4	459.9			
12509552	0.2	1.7	102.6	4,787.8	0.2	1.5	93.4	4,358.0	0.0	0.2	9.2	429.8			
130010001	0.0	0.1	6.7	313.8	0.0	0.1	5.0	232.0	0.0	0.0	1.8	81.7			
141010021	0.0	0.2	11.9	554.1	0.0	0.1	7.4	348.9	0.0	0.1	4.4	205.1			
1015410024	0.0	0.0	2.3	107.5	0.0	0.0	1.6	74.8	0.0	0.0	0.7	32.7			
765610032	0.0	0.2	10.5	488.0	0.0	0.1	6.2	290.3	0.0	0.1	4.2	197.7			
763610056	0.0	0.4	22.5	1,051.5	0.0	0.4	25.4	1,186.4	0.0	0.0	-2.9	-134.9			
209610056	0.0	0.5	32.0	1,493.0	0.1	0.7	42.6	1,988.7	0.0	-0.2	-10.6	-495.7			
203810058	0.1	0.9	56.4	2,637.4	0.1	1.0	61.2	2,859.0	0.0	-0.1	-4.7	-221.6			
950910058	0.1	1.5	89.1	4,157.4	0.2	1.7	105.2	4,910.4	0.0	-0.3	-16.1	-753.0			
133210124	0.0	0.5	32.6	1,520.2	0.0	0.6	36.2	1,686.9	0.0	-0.1	-3.6	-166.7			
139410126	0.0	0.3	16.9	787.3	0.0	0.3	18.8	875.7	0.0	0.0	-1.9	-88.4			
135810154	0.1	0.6	38.6	1,801.3	0.1	0.4	26.4	1,235.2	0.0	0.2	12.2	566.1			
190210169	0.0	0.0	2.7	123.8	0.0	0.1	6.0	279.1	0.0	-0.1	-3.3	-155.3			

21482108	0.0	0.0	0.0	0.0	0.0	0.0	0.4	22.1	0.0	0.0	-0.4	-22.1	
21062112	0.0	0.0	0.0	0.0	0.0	0.0	1.1	63.3	0.0	0.0	-1.1	-63.3	
21402130	0.0	0.0	0.0	0.0	0.0	0.0	0.7	41.1	0.0	0.0	-0.7	-41.1	
103022140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
103052392	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
103082392	0.0	0.0	0.0	0.0	0.0	0.0	0.1	4.9	0.0	0.0	-0.1	-4.9	
103079500	0.0	0.0	0.0	0.0	0.1	0.0	2.9	167.8	-0.1	0.0	-2.9	-167.8	
211210301	0.0	0.0	0.0	0.0	0.1	0.1	5.9	341.9	-0.1	-0.1	-5.9	-341.9	
1030410302	0.0	0.0	0.0	0.0	0.0	0.0	3.0	174.8	0.0	0.0	-3.0	-174.8	
1030110303	0.0	0.0	0.0	0.0	0.1	0.1	4.7	272.0	-0.1	-0.1	-4.7	-272.0	
1030810304	0.0	0.0	0.0	0.0	0.0	0.0	0.7	40.0	0.0	0.0	-0.7	-40.0	
239210304	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
239210305	0.0	0.0	0.0	0.0	0.0	0.0	0.1	3.7	0.0	0.0	-0.1	-3.7	
1030310305	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1030310307	0.0	0.0	0.0	0.0	0.0	0.0	1.1	62.2	0.0	0.0	-1.1	-62.2	
1030510307	0.0	0.0	0.0	0.0	0.0	0.0	0.2	7.3	0.0	0.0	-0.2	-7.3	
Total	17.4	190.6	11,542.6	582,413.4	16.2	169.0	10,345.1	525,260.2	1.2	21.7	1,197.5	57,153.2	

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 3] Accident Rates

[Section 3.1] Link Accident Rates

Link Name	*----- Accident Rate ----* 2023	2038 *

Accident rates are in accidents per million vehicle kilometres.

[Section 3.2] Junction Accident Rates

Junction Name	*---- Coefficient 'a' ---* 2023	2038 *

[Section 3.3] Combined Link and Junction Accident Rates

Link Name	*----- Accident Rate ----* 2023	2038 *
12021192	0.143220	0.114668
12081202	0.143220	0.114668
12421208	0.539109	0.445665
74701242	0.539109	0.445665
100011276	0.539109	0.445665
12941282	0.539109	0.445665
100081316	0.063991	0.051784
95521316	0.143220	0.114668
100321318	0.539109	0.445665
101241340	0.539109	0.445665
13061344	0.539109	0.445665
13401394	0.539109	0.445665
100241396	0.539109	0.445665
13961410	0.539109	0.445665
14201412	0.539109	0.445665
76481412	0.539109	0.445665
14121416	0.395754	0.328904
14241418	0.395754	0.328904
14221420	0.539109	0.445665
14281422	0.539109	0.445665
14401424	0.395754	0.328904
14181428	0.539109	0.445665
17661450	0.539109	0.445665
14161456	0.395754	0.328904
15221490	0.539109	0.445665
16181490	0.539109	0.445665
101261502	0.539109	0.445665
14921504	0.395754	0.328904
16041522	0.539109	0.445665
15461548	0.395754	0.328904
60151556	0.539109	0.445665
15481562	0.395754	0.328904
15621568	0.395754	0.328904
15581580	0.539109	0.445665
74781604	0.539109	0.445665
18541622	0.539109	0.445665
79081696	0.539109	0.445665
18661696	0.539109	0.445665
17681706	0.539109	0.445665
15681744	0.143220	0.114668
17801758	0.539109	0.445665
18041764	0.395754	0.328904
17581764	0.539109	0.445665
60521766	0.143220	0.114668
17941768	0.539109	0.445665
17061768	0.539109	0.445665

60521794	0.539109	0.445665
17681794	0.539109	0.445665
18161804	0.395754	0.328904
18341816	0.395754	0.328904
18341828	0.395754	0.328904
19881844	0.539109	0.445665
76441848	0.143220	0.114668
17941848	0.143220	0.114668
79361854	0.143220	0.114668
79061866	0.539109	0.445665
16961866	0.539109	0.445665
18781874	0.539109	0.445665
76181874	0.539109	0.445665
101691878	0.539109	0.445665
19601956	0.539109	0.445665
76441956	0.143220	0.114668
95251960	0.539109	0.445665
19561962	0.539109	0.445665
19741970	0.395754	0.328904
19621974	0.395754	0.328904
90161994	0.063991	0.051784
19621994	0.539109	0.445665
19841996	0.395754	0.328904
20842002	0.395754	0.328904
20722012	0.063991	0.051784
95192016	0.395754	0.328904
75962018	0.395754	0.328904
20482030	0.539109	0.445665
19742030	0.539109	0.445665
20302034	0.539109	0.445665
20122034	0.143220	0.114668
100582038	0.395754	0.328904
20442038	0.539109	0.445665
20382044	0.539109	0.445665
20342046	0.539109	0.445665
76382058	0.143220	0.114668
20462058	0.539109	0.445665
20962066	0.063991	0.051784
19942070	0.063991	0.051784
21102072	0.063991	0.051784
90152076	0.063991	0.051784
73722084	0.395754	0.328904
76362086	0.539109	0.445665
95092086	0.539109	0.445665
21742088	0.539109	0.445665
95022088	0.539109	0.445665
100562096	0.395754	0.328904
20762096	0.063991	0.051784
21702102	0.539109	0.445665
79062102	0.539109	0.445665
95032106	0.063991	0.051784
21062108	0.395754	0.328904
21302110	0.063991	0.051784
95052110	0.539109	0.445665

21082112	0.539109	0.445665
21482130	0.395754	0.328904
21402148	0.539109	0.445665
23442164	0.395754	0.328904
74762170	0.539109	0.445665
21022170	0.539109	0.445665
22162174	0.143220	0.114668
20882174	0.539109	0.445665
74762174	0.539109	0.445665
73712182	0.539109	0.445665
22242198	0.539109	0.445665
23062216	0.539109	0.445665
22482218	0.063991	0.051784
74742220	0.539109	0.445665
22702224	0.539109	0.445665
21982224	0.539109	0.445665
22462244	0.395754	0.328904
90092246	0.395754	0.328904
22442252	0.395754	0.328904
22522260	0.395754	0.328904
22742268	0.395754	0.328904
95272270	0.539109	0.445665
75742270	0.539109	0.445665
22242270	0.539109	0.445665
22802272	0.539109	0.445665
22722274	0.539109	0.445665
76782280	0.143220	0.114668
22602280	0.539109	0.445665
23082306	0.063991	0.051784
60472308	0.539109	0.445665
60482308	0.063991	0.051784
23742310	0.063991	0.051784
24202310	0.539109	0.445665
60482312	0.395754	0.328904
60472312	0.063991	0.051784
23902316	0.539109	0.445665
24162316	0.143220	0.114668
60502316	0.539109	0.445665
95272316	0.539109	0.445665
23062324	0.063991	0.051784
23582346	0.539109	0.445665
23782358	0.063991	0.051784
23742372	0.395754	0.328904
23242372	0.063991	0.051784
23822374	0.395754	0.328904
23722378	0.395754	0.328904
74822380	0.539109	0.445665
23842382	0.395754	0.328904
24082382	0.143220	0.114668
23922390	0.395754	0.328904
23162390	0.539109	0.445665
23902392	0.395754	0.328904
25162406	0.143220	0.114668
76382406	0.143220	0.114668

24202408	0.143220	0.114668
23822408	0.143220	0.114668
75722416	0.143220	0.114668
60492416	0.539109	0.445665
23162416	0.143220	0.114668
74842420	0.539109	0.445665
24362420	0.539109	0.445665
24082420	0.143220	0.114668
24782436	0.063991	0.051784
23122436	0.143220	0.114668
24202436	0.539109	0.445665
74862478	0.143220	0.114668
24362478	0.063991	0.051784
24922482	0.539109	0.445665
74842482	0.539109	0.445665
24822492	0.539109	0.445665
74822492	0.539109	0.445665
25122506	0.395754	0.328904
25062508	0.395754	0.328904
25182512	0.395754	0.328904
25082516	0.395754	0.328904
24062516	0.143220	0.114668
25262518	0.063991	0.051784
25162520	0.395754	0.328904
25482526	0.063991	0.051784
25202536	0.063991	0.051784
25762546	0.539109	0.445665
76782546	0.143220	0.114668
25842548	0.063991	0.051784
25362568	0.063991	0.051784
90052576	0.539109	0.445665
25462576	0.539109	0.445665
27082584	0.063991	0.051784
25942592	0.539109	0.445665
95392592	0.063991	0.051784
25982596	0.395754	0.328904
75702596	0.143220	0.114668
26422598	0.143220	0.114668
25922598	0.395754	0.328904
26162610	0.539109	0.445665
75702610	0.143220	0.114668
26342616	0.143220	0.114668
26102616	0.539109	0.445665
75762634	0.539109	0.445665
26162634	0.143220	0.114668
90052638	0.539109	0.445665
26382640	0.143220	0.114668
27022642	0.143220	0.114668
26902676	0.539109	0.445665
75762676	0.539109	0.445665
60362690	0.539109	0.445665
26762690	0.539109	0.445665
27142706	0.539109	0.445665
27102708	0.395754	0.328904

75882710	0.539109	0.445665
27082712	0.395754	0.328904
25682712	0.063991	0.051784
27282714	0.539109	0.445665
27122716	0.395754	0.328904
27222720	0.395754	0.328904
27262722	0.395754	0.328904
27422722	0.063991	0.051784
73462724	0.395754	0.328904
27162724	0.395754	0.328904
26402728	0.539109	0.445665
73462740	0.539109	0.445665
27482740	0.539109	0.445665
28162744	0.395754	0.328904
27542748	0.539109	0.445665
27402748	0.539109	0.445665
75782750	0.143220	0.114668
60362750	0.143220	0.114668
27642754	0.539109	0.445665
27482754	0.539109	0.445665
27662762	0.539109	0.445665
27642762	0.539109	0.445665
27702764	0.539109	0.445665
27542764	0.539109	0.445665
27622764	0.539109	0.445665
27622766	0.539109	0.445665
75782766	0.539109	0.445665
75802770	0.539109	0.445665
27642770	0.539109	0.445665
27402792	0.539109	0.445665
75802792	0.539109	0.445665
28042808	0.539109	0.445665
28082816	0.539109	0.445665
22206015	0.143220	0.114668
16226016	0.539109	0.445665
13446018	0.539109	0.445665
27506036	0.143220	0.114668
26906036	0.539109	0.445665
23106047	0.063991	0.051784
95006048	0.063991	0.051784
60506049	0.395754	0.328904
24166049	0.539109	0.445665
60516050	0.539109	0.445665
23166050	0.539109	0.445665
75746051	0.539109	0.445665
60496051	0.539109	0.445665
18486052	0.143220	0.114668
27407346	0.539109	0.445665
27167346	0.539109	0.445665
22187371	0.063991	0.051784
73767372	0.395754	0.328904
73777376	0.395754	0.328904
21827377	0.539109	0.445665
12507470	0.539109	0.445665

23167474	0.539109	0.445665
21747476	0.539109	0.445665
21707476	0.539109	0.445665
74797478	0.539109	0.445665
24927482	0.539109	0.445665
23807482	0.539109	0.445665
24207484	0.539109	0.445665
24827484	0.539109	0.445665
95397486	0.143220	0.114668
24787486	0.143220	0.114668
26107570	0.143220	0.114668
25967570	0.143220	0.114668
25947572	0.143220	0.114668
24167572	0.143220	0.114668
60517574	0.539109	0.445665
22707574	0.539109	0.445665
26347576	0.539109	0.445665
26767576	0.539109	0.445665
27507578	0.143220	0.114668
27667578	0.539109	0.445665
27927580	0.539109	0.445665
27707580	0.539109	0.445665
27067588	0.539109	0.445665
90147596	0.395754	0.328904
20447616	0.539109	0.445665
65027618	0.539109	0.445665
20867636	0.539109	0.445665
100567636	0.395754	0.328904
20587638	0.143220	0.114668
24067638	0.143220	0.114668
19567644	0.143220	0.114668
18487644	0.143220	0.114668
60187648	0.539109	0.445665
13067656	0.539109	0.445665
60167672	0.539109	0.445665
22807678	0.143220	0.114668
25467678	0.143220	0.114668
21027906	0.539109	0.445665
18667906	0.539109	0.445665
79097908	0.539109	0.445665
18547936	0.143220	0.114668
15027944	0.539109	0.445665
26389005	0.539109	0.445665
25769005	0.539109	0.445665
22489009	0.395754	0.328904
20169014	0.395754	0.328904
20129015	0.143220	0.114668
20669016	0.063991	0.051784
95009501	0.539109	0.445665
95019502	0.539109	0.445665
20889502	0.539109	0.445665
20709503	0.063991	0.051784
100589509	0.395754	0.328904
20869509	0.539109	0.445665

19969519	0.395754	0.328904
17449525	0.539109	0.445665
23169527	0.539109	0.445665
22709527	0.539109	0.445665
25929539	0.063991	0.051784
74869539	0.143220	0.114668
13169552	0.143220	0.114668
12509552	0.539109	0.445665
130010001	0.539109	0.445665
141010021	0.539109	0.445665
1015410024	0.539109	0.445665
765610032	0.539109	0.445665
763610056	0.395754	0.328904
209610056	0.395754	0.328904
203810058	0.395754	0.328904
950910058	0.395754	0.328904
133210124	0.539109	0.445665
139410126	0.539109	0.445665
135810154	0.539109	0.445665
190210169	0.539109	0.445665
21482108	0.332336	0.274732
21062112	0.063991	0.051784
21402130	0.063991	0.051784
103022140	0.063991	0.051784
103052392	0.332336	0.274732
103082392	0.332336	0.274732
103079500	0.063991	0.051784
211210301	0.063991	0.051784
1030410302	0.063991	0.051784
1030110303	0.063991	0.051784
1030810304	0.063991	0.051784
239210304	0.332336	0.274732
239210305	0.332336	0.274732
1030310305	0.332336	0.274732
1030310307	0.063991	0.051784
1030510307	0.332336	0.274732

Accident rates are in accidents per million vehicle kilometres.

[Section 4] Input Data - Scheme File

Scheme Name
Arundel Option 3 Analysis

Years Subsection

Current Year	2017
Base Year	2015
Without-Scheme	
Year 1	2023
Year 2	2041
Year 3	0

Year 4 0
Year 5 0
With-Scheme
Year 1 2023
Year 2 2041
Year 3 0
Year 4 0
Year 5 0

Scheme Opening Year 2023

Link Input Section

Link Classification Subsection

Link Name	Road Type	Length (km)	Speed Limit (mph)	Error/Warning Summary (!=Error, #=Warning)

Link Flow Subsection

Link Name	Base Year Flows	Without-Scheme Flows					With-Scheme Flows				
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5

Link Local Accident Rate Subsection

Link Name	Observed Accidents	First Observed Accident Year	Local Severity Split Ratio	Year

Junction Input Section

Junction Classification Subsection

Junction Name	Junction Geometry	Highest Carriageway	Highest Standard	Speed Limit (mph)	Error/Warning Summary (!=Error, #=Warning)

Junction Flow Subsection

Base Year Flows

Junction Name	Arm 1 (Major)	Arm 2 (Minor)	Arm 3 (Major)	Arm 4 (Minor)	Arm 5 (Major)	Arm 6 (Minor)

Without-Scheme Year Flows

Junction Name	Year	Arm 1 (Major)	Arm 2 (Minor)	Arm 3 (Major)	Arm 4 (Minor)	Arm 5 (Major)	Arm 6 (Minor)

With-Scheme Year Flows

Junction Name	Year	Arm 1 (Major)	Arm 2 (Minor)	Arm 3 (Major)	Arm 4 (Minor)	Arm 5 (Major)

Junction Local Accident Rate Subsection

Junction Name	Observed Accidents	First Observed Accident Year	Local Severity Split Ratio	Year

Link and Junction Combined Input Section

Combined Classification Subsection

Link Name	Road Type	Length (km)	Speed Limit (mph)	Error/Warning Summary (!=Error, #=Warning)
12021192	8	1.30	50	
12081202	8	0.08	50	
12421208	8	2.23	40	
74701242	8	0.42	40	
100011276	8	0.26	30	
12941282	8	0.42	30	
100081316	12	0.73	60	
95521316	8	1.00	50	
100321318	8	0.34	30	
101241340	8	0.42	30	
13061344	8	0.34	30	
13401394	8	0.72	30	
100241396	8	0.17	30	
13961410	8	0.39	30	
14201412	8	0.04	30	
76481412	8	0.09	30	
14121416	12	0.02	30	
14241418	12	0.03	30	
14221420	8	0.87	40	
14281422	8	0.51	40	
14401424	12	0.02	30	
14181428	8	0.04	30	
17661450	8	1.40	40	
14161456	12	0.77	40	
15221490	8	0.42	40	
16181490	8	0.81	40	
101261502	8	0.55	30	
14921504	12	0.06	30	
16041522	8	0.63	40	
15461548	12	0.03	30	
60151556	8	0.63	30	
15481562	12	0.02	30	
15621568	12	0.04	30	
15581580	8	0.56	30	
74781604	8	0.40	30	
18541622	8	1.36	40	
79081696	8	1.02	30	
18661696	8	0.66	30	
17681706	8	0.40	30	
15681744	8	0.76	50	
17801758	8	0.10	30	
18041764	12	0.35	30	
17581764	8	0.26	30	
60521766	8	0.20	50	
17941768	8	0.54	40	
17061768	8	0.40	30	
60521794	8	0.05	30	
17681794	8	0.54	40	
18161804	12	0.07	30	
18341816	12	0.03	30	
18341828	12	0.02	30	

19881844	8	0.54	40
76441848	8	0.81	60
17941848	8	0.22	50
79361854	8	0.44	50
79061866	8	0.48	30
16961866	8	0.66	30
18781874	8	0.02	30
76181874	8	0.41	30
101691878	8	0.35	30
19601956	8	0.04	30
76441956	8	0.84	60
95251960	8	0.87	40
19561962	8	0.03	30
19741970	12	0.03	30
19621974	12	0.02	30
90161994	12	0.52	60
19621994	8	0.57	40
19841996	12	0.52	40
20842002	12	0.93	40
20722012	12	0.83	60
95192016	12	0.50	40
75962018	12	0.29	40
20482030	8	0.03	30
19742030	8	0.16	30
20302034	8	0.03	30
20122034	8	0.61	60
100582038	12	0.45	40
20442038	8	0.40	40
20382044	8	0.40	40
20342046	8	0.02	30
76382058	8	0.95	60
20462058	8	0.03	30
20962066	12	1.93	60
19942070	12	1.81	60
21102072	12	2.87	60
90152076	12	0.52	60
73722084	12	0.85	40
76362086	8	0.29	40
95092086	8	0.03	40
21742088	8	0.72	30
95022088	8	0.60	30
100562096	12	0.29	40
20762096	12	1.85	60
21702102	8	0.38	30
79062102	8	0.48	30
95032106	12	2.07	60
21062108	12	0.06	30
21302110	12	1.80	60
95052110	8	3.15	30
21082112	8	0.03	30
21482130	12	0.09	30
21402148	8	0.03	30
23442164	12	1.30	30
74762170	8	0.18	30

21022170	8	0.38	30
22162174	8	0.15	50
20882174	8	0.72	30
74762174	8	0.22	30
73712182	8	0.06	40
22242198	8	0.32	40
23062216	8	0.57	40
22482218	12	0.13	70
74742220	8	0.37	30
22702224	8	0.47	40
21982224	8	0.32	40
22462244	12	0.03	30
90092246	12	0.32	30
22442252	12	0.05	30
22522260	12	0.03	30
22742268	12	0.06	30
95272270	8	0.47	40
75742270	8	0.33	40
22242270	8	0.47	40
22802272	8	0.10	30
22722274	8	0.03	30
76782280	8	1.91	50
22602280	8	0.12	30
23082306	12	0.32	60
60472308	8	0.05	30
60482308	12	0.05	60
23742310	12	1.52	60
24202310	8	0.92	40
60482312	12	0.05	40
60472312	12	0.05	60
23902316	8	0.71	40
24162316	8	0.73	60
60502316	8	0.44	30
95272316	8	0.47	40
23062324	12	1.19	60
23582346	8	0.02	30
23782358	12	0.64	60
23742372	12	0.02	30
23242372	12	0.34	60
23822374	12	0.02	30
23722378	12	0.02	30
74822380	8	0.83	40
23842382	12	0.02	30
24082382	8	0.82	60
23922390	12	1.02	40
23162390	8	0.71	40
23902392	12	1.02	40
25162406	8	3.63	60
76382406	8	0.78	60
24202408	8	0.34	60
23822408	8	0.82	60
75722416	8	1.37	60
60492416	8	0.79	30
23162416	8	0.73	60

74842420	8	0.60	30
24362420	8	0.38	40
24082420	8	0.34	60
24782436	12	0.75	50
23122436	8	1.23	50
24202436	8	0.38	40
74862478	8	2.06	50
24362478	12	0.75	50
24922482	8	1.84	40
74842482	8	0.69	30
24822492	8	1.84	40
74822492	8	0.75	40
25122506	12	0.03	30
25062508	12	0.02	30
25182512	12	0.03	30
25082516	12	0.03	30
24062516	8	3.63	60
25262518	12	0.28	60
25162520	12	0.04	30
25482526	12	0.59	60
25202536	12	0.46	60
25762546	8	1.41	40
76782546	8	1.62	50
25842548	12	0.96	60
25362568	12	0.95	60
90052576	8	1.74	30
25462576	8	1.41	40
27082584	12	2.86	60
25942592	8	0.04	30
95392592	12	0.10	50
25982596	12	0.05	30
75702596	8	0.88	50
26422598	8	1.93	60
25922598	12	0.11	30
26162610	8	0.23	30
75702610	8	0.78	50
26342616	8	1.27	60
26102616	8	0.23	30
75762634	8	0.50	40
26162634	8	1.27	60
90052638	8	0.95	30
26382640	8	0.14	50
27022642	8	0.73	50
26902676	8	0.33	40
75762676	8	0.45	40
60362690	8	3.66	40
26762690	8	0.33	40
27142706	8	0.52	30
27102708	12	0.02	30
75882710	8	0.67	30
27082712	12	0.04	30
25682712	12	2.93	60
27282714	8	0.95	30
27122716	12	0.01	30

27222720	12	0.03	30
27262722	12	0.04	30
27422722	12	0.64	60
73462724	12	0.04	30
27162724	12	0.04	30
26402728	8	3.00	40
73462740	8	2.16	40
27482740	8	0.48	40
28162744	12	1.93	40
27542748	8	0.26	30
27402748	8	0.48	40
75782750	8	0.37	60
60362750	8	0.90	60
27642754	8	0.30	30
27482754	8	0.26	30
27662762	8	0.45	30
27642762	8	0.05	30
27702764	8	0.28	30
27542764	8	0.30	30
27622764	8	0.05	30
27622766	8	0.45	30
75782766	8	0.35	30
75802770	8	0.35	30
27642770	8	0.28	30
27402792	8	1.04	40
75802792	8	0.46	30
28042808	8	0.20	30
28082816	8	0.83	40
22206015	8	2.18	50
16226016	8	0.17	30
13446018	8	0.14	30
27506036	8	0.90	60
26906036	8	3.66	40
23106047	12	0.29	60
95006048	12	1.23	60
60506049	12	0.04	30
24166049	8	0.79	30
60516050	8	0.04	30
23166050	8	0.44	30
75746051	8	0.38	30
60496051	8	0.06	30
18486052	8	0.22	50
27407346	8	2.16	40
27167346	8	0.04	30
22187371	12	0.62	60
73767372	12	0.05	40
73777376	12	0.03	40
21827377	8	0.02	40
12507470	8	0.38	40
23167474	8	0.41	30
21747476	8	0.22	30
21707476	8	0.18	30
74797478	8	0.71	30
24927482	8	0.75	40

23807482	8	0.83	40
24207484	8	0.60	30
24827484	8	0.69	30
95397486	8	2.49	50
24787486	8	2.06	50
26107570	8	0.78	50
25967570	8	0.88	50
25947572	8	1.98	60
24167572	8	1.37	60
60517574	8	0.38	30
22707574	8	0.33	40
26347576	8	0.50	40
26767576	8	0.45	40
27507578	8	0.37	60
27667578	8	0.35	30
27927580	8	0.46	30
27707580	8	0.35	30
27067588	8	0.57	30
90147596	12	0.20	40
20447616	8	0.99	30
65027618	8	0.50	30
20867636	8	0.29	40
100567636	12	0.19	40
20587638	8	0.95	60
24067638	8	0.78	60
19567644	8	0.84	60
18487644	8	0.81	60
60187648	8	0.08	30
13067656	8	0.33	30
60167672	8	0.23	30
22807678	8	1.91	50
25467678	8	1.62	50
21027906	8	0.48	30
18667906	8	0.48	30
79097908	8	0.21	30
18547936	8	0.44	50
15027944	8	0.53	30
26389005	8	0.95	30
25769005	8	1.74	30
22489009	12	0.23	40
20169014	12	0.04	40
20129015	8	0.60	60
20669016	12	0.49	60
95009501	8	0.65	40
95019502	8	0.65	40
20889502	8	0.60	30
20709503	12	1.69	60
100589509	12	0.75	40
20869509	8	0.03	40
19969519	12	0.14	40
17449525	8	0.87	40
23169527	8	0.47	40
22709527	8	0.47	40
25929539	12	0.10	50

74869539	8	2.49	50
13169552	8	1.00	50
12509552	8	0.50	40
130010001	8	0.12	30
141010021	8	0.34	30
1015410024	8	0.04	30
765610032	8	0.27	30
763610056	12	0.19	40
209610056	12	0.29	40
203810058	12	0.45	40
950910058	12	0.75	40
133210124	8	0.30	30
139410126	8	0.12	30
135810154	8	0.65	30
190210169	8	0.21	30
21482108	4	0.10	30
21062112	10	0.50	60
21402130	10	0.50	60
103022140	10	2.20	70
103052392	4	0.10	30
103082392	4	0.20	40
103079500	10	1.02	60
211210301	10	2.20	70
1030410302	10	1.75	70
1030110303	10	1.75	70
1030810304	10	0.40	70
239210304	4	0.25	40
239210305	4	0.10	30
1030310305	4	0.25	40
1030310307	10	0.40	70
1030510307	4	0.20	40

Combined Flow Subsection

Link Name	Base Year Flows	Without-Scheme Flows Year 1	Year 2	Year 3	Year 4	Year 5	With-Scheme Flows Year 1	Year 2	Year 3	Year 4	Year 5
12021192	545	617	9,002	0	0	0	858	10,729	0	0	0
12081202	871	813	12,070	0	0	0	1,116	14,322	0	0	0
12421208	864	759	11,147	0	0	0	1,052	13,316	0	0	0
74701242	1,062	1,017	14,986	0	0	0	1,315	16,756	0	0	0
100011276	351	480	6,902	0	0	0	368	5,100	0	0	0
12941282	109	512	6,584	0	0	0	349	4,967	0	0	0
100081316	701	876	13,210	0	0	0	616	11,218	0	0	0
95521316	1,168	1,756	26,136	0	0	0	1,574	23,797	0	0	0
100321318	179	323	4,515	0	0	0	179				

```
   2,849   0       0       0
    101241340       609             572     13,295  0       0       0       589
   14,960  0       0       0
    13061344        240             256     2,561   0       0       0       397
   4,192   0       0       0
    13401394        580             549     12,796  0       0       0       566
   14,496  0       0       0
    100241396       533             604     6,959   0       0       0       563
   4,612   0       0       0
    13961410        347             434     4,705   0       0       0       404
   3,029   0       0       0
    14201412        1,751           2,019   29,717  0       0       0
1,473   25,519  0       0       0
    76481412        194             221     2,186   0       0       0       376
   3,906   0       0       0
    14121416        1,488           1,732   24,726  0       0       0
1,371   22,669  0       0       0
    14241418        1,403           1,587   23,502  0       0       0
1,259   20,732  0       0       0
    14221420        1,116           1,318   19,856  0       0       0       908
   16,487  0       0       0
    14281422        1,195           1,386   20,509  0       0       0
1,066   18,362  0       0       0
    14401424        88              197     2,492   0       0       0       58
   899     0       0       0
    14181428        1,496           1,687   25,649  0       0       0
1,373   23,562  0       0       0
    17661450        89              203     2,586   0       0       0       60
   942     0       0       0
    14161456        1,353           1,673   23,914  0       0       0
1,316   21,959  0       0       0
    15221490        80              572     9,355   0       0       0       574
   7,017   0       0       0
    16181490        56              181     3,138   0       0       0       285
   5,031   0       0       0
    101261502       1,110           1,022   19,081  0       0       0
1,075   21,128  0       0       0
    14921504        1,549           1,585   25,129  0       0       0
1,750   27,003  0       0       0
    16041522        80              572     9,355   0       0       0       574
   7,017   0       0       0
    15461548        1,692           1,765   26,798  0       0       0
1,791   28,401  0       0       0
    60151556        252             624     6,640   0       0       0       842
   10,132  0       0       0
    15481562        434             502     8,303   0       0       0       689
   10,506  0       0       0
    15621568        1,733           1,811   32,357  0       0       0
1,933   34,694  0       0       0
    15581580        576             515     10,558  0       0       0       552
   12,104  0       0       0
    74781604        80              572     9,355   0       0       0       574
   7,017   0       0       0
    18541622        576             2       353     0       0       0       57
```

2,408 0 0 0
79081696 20 231 3,978 0 0 0 206
6,341 0 0 0
18661696 0 417 3,901 0 0 0 601
5,408 0 0 0
17681706 638 621 8,013 0 0 0 377
6,453 0 0 0
15681744 254 324 5,979 0 0 0 518
7,954 0 0 0
17801758 490 485 9,096 0 0 0 554
10,940 0 0 0
18041764 560 500 8,897 0 0 0 413
7,008 0 0 0
17581764 361 327 6,102 0 0 0 328
7,636 0 0 0
60521766 89 203 2,586 0 0 0 60
942 0 0 0
17941768 623 611 7,856 0 0 0 367
6,274 0 0 0
17061768 475 355 5,553 0 0 0 284
3,898 0 0 0
60521794 632 619 7,926 0 0 0 367
6,274 0 0 0
17681794 475 355 5,553 0 0 0 284
3,898 0 0 0
18161804 1,100 1,009 16,592 0 0 0 863
14,255 0 0 0
18341816 1,100 1,009 16,591 0 0 0 863
14,255 0 0 0
18341828 872 888 13,780 0 0 0
1,112 15,852 0 0 0
19881844 669 896 11,286 0 0 0 777
9,717 0 0 0
76441848 721 822 10,513 0 0 0 426
7,216 0 0 0
17941848 501 441 6,830 0 0 0 371
5,261 0 0 0
79361854 576 194 7,120 0 0 0 915
13,999 0 0 0
79061866 0 417 3,901 0 0 0 601
5,408 0 0 0
16961866 0 215 3,552 0 0 0 202
5,744 0 0 0
18781874 627 533 10,485 0 0 0 693
13,135 0 0 0
76181874 150 127 3,430 0 0 0 339
5,103 0 0 0
101691878 119 92 1,937 0 0 0 163
3,907 0 0 0
19601956 1,439 1,630 24,326 0 0 0
1,820 26,306 0 0 0
76441956 533 559 9,107 0 0 0 489
7,538 0 0 0
95251960 389 615 9,890 0 0 0 879

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   12,138  0       0       0
    19561962        1,240           1,176   21,189  0       0       0
1,678   24,805  0       0       0
    19741970        1,451           1,449   23,213  0       0       0
1,657   24,904  0       0       0
    19621974        646             647     11,187  0       0       0       580
   9,485   0       0       0
    90161994        844             1,053   15,184  0       0       0
1,442   18,493  0       0       0
    19621994        594             529     10,003  0       0       0
1,098   15,320  0       0       0
    19841996        1,627           1,480   23,919  0       0       0
1,582   25,446  0       0       0
    20842002        1,576           1,470   24,175  0       0       0
1,581   26,024  0       0       0
    20722012        1,229           1,364   22,403  0       0       0
1,879   34,777  0       0       0
    95192016        1,577           1,432   23,276  0       0       0
1,538   24,922  0       0       0
    75962018        1,423           1,259   22,308  0       0       0
1,373   23,816  0       0       0
    20482030        1,387           1,276   20,719  0       0       0
1,466   22,268  0       0       0
    19742030        581             473     8,510   0       0       0       389
   6,481   0       0       0
    20302034        582             474     8,583   0       0       0       390
   6,534   0       0       0
    20122034        464             482     8,458   0       0       0       665
   14,202  0       0       0
    100582038       1,101           1,228   19,551  0       0       0
1,443   22,816  0       0       0
    20442038        1,258           1,571   19,759  0       0       0
1,698   21,331  0       0       0
    20382044        1,120           1,264   20,031  0       0       0
1,473   22,051  0       0       0
    20342046        1,046           956     17,041  0       0       0
1,055   20,736  0       0       0
    76382058        1,044           862     14,774  0       0       0
1,116   16,895  0       0       0
    20462058        1,065           969     17,373  0       0       0
1,074   21,142  0       0       0
    20962066        1,046           1,348   18,912  0       0       0
1,600   21,514  0       0       0
    19942070        1,438           1,582   25,187  0       0       0
2,541   33,813  0       0       0
    21102072        1,237           1,366   22,433  0       0       0
1,888   34,910  0       0       0
    90152076        765             882     13,945  0       0       0
1,214   20,575  0       0       0
    73722084        1,576           1,470   24,175  0       0       0
1,581   26,024  0       0       0
    76362086        1,009           1,120   17,795  0       0       0
1,453   23,430  0       0       0
    95092086        1,205           1,556   20,902  0       0       0
```

1,702 22,625 0 0 0
21742088 11 4 1,735 0 0 0 3
3,681 0 0 0
95022088 170 96 1,446 0 0 0 742
6,726 0 0 0
100562096 1,046 1,348 18,912 0 0 0
1,600 21,514 0 0 0
20762096 988 1,116 17,764 0 0 0
1,466 23,668 0 0 0
21702102 0 417 3,901 0 0 0 601
5,408 0 0 0
79062102 0 215 3,552 0 0 0 202
5,744 0 0 0
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2,647 34,421 0 0 0
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8,361 0 0 0
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1,884 34,696 0 0 0
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21082112 1,194 1,046 16,583 0 0 0 477
3,932 0 0 0
21482130 1,564 1,502 23,579 0 0 0 890
12,936 0 0 0
21402148 64 2 1,679 0 0 0 258
3,491 0 0 0
23442164 198 802 7,116 0 0 0 667
5,290 0 0 0
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1,026 10,557 0 0 0
21022170 0 215 3,552 0 0 0 202
5,744 0 0 0
22162174 106 607 8,563 0 0 0 504
5,687 0 0 0
20882174 43 16 0 0 0 0 544
5,480 0 0 0
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9,726 0 0 0
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1,460 25,618 0 0 0
22242198 1,540 1,712 25,533 0 0 0
1,173 16,433 0 0 0
23062216 106 607 8,563 0 0 0 504
5,687 0 0 0
22482218 1,189 1,074 20,324 0 0 0
1,284 23,015 0 0 0
74742220 252 624 6,639 0 0 0 842
10,131 0 0 0
22702224 1,556 1,734 27,438 0 0 0
1,170 16,276 0 0 0
21982224 1,437 1,500 21,900 0 0 0 954
8,838 0 0 0
22462244 1,064 1,202 21,156 0 0 0 962

```
   17,668  0       0       0
    90092246        433             582     10,863  0       0       0       347
   7,847   0       0       0
    22442252        633             745     13,116  0       0       0       508
   10,498  0       0       0
    22522260        1,047           1,229   21,157  0       0       0       924
   17,630  0       0       0
    22742268        628             685     10,835  0       0       0       602
   9,204   0       0       0
    95272270        1,248           1,160   17,133  0       0       0       886
   13,210  0       0       0
    75742270        346             613     10,771  0       0       0       310
   3,440   0       0       0
    22242270        1,459           1,579   22,470  0       0       0       957
   8,724   0       0       0
    22802272        942             985     19,171  0       0       0       866
   16,138  0       0       0
    22722274        994             1,014   19,805  0       0       0       899
   16,787  0       0       0
    76782280        942             985     19,173  0       0       0       866
   16,137  0       0       0
    22602280        996             1,199   20,522  0       0       0       891
   16,981  0       0       0
    23082306        1,298           1,416   20,407  0       0       0
1,569   27,559  0       0       0
    60472308        196             135     2,440   0       0       0       108
   4,993   0       0       0
    60482308        1,271           1,329   18,887  0       0       0
1,500   21,900  0       0       0
    23742310        1,163           1,217   16,999  0       0       0
1,363   21,324  0       0       0
    24202310        39              40      1,767   0       0       0       121
   5,730   0       0       0
    60482312        9               4       2,525   0       0       0       65
   4,395   0       0       0
    60472312        1,006           1,122   16,325  0       0       0
1,376   21,835  0       0       0
    23902316        1,006           1,122   17,099  0       0       0       125
   817     0       0       0
    24162316        511             428     4,230   0       0       0       512
   12,355  0       0       0
    60502316        34              582     4,370   0       0       0       37
   482     0       0       0
    95272316        1,311           921     16,911  0       0       0       972
   8,694   0       0       0
    23062324        1,246           1,182   17,987  0       0       0
1,458   27,797  0       0       0
    23582346        1,739           1,995   33,290  0       0       0
1,996   30,429  0       0       0
    23782358        1,701           1,885   25,998  0       0       0
1,936   22,399  0       0       0
    23742372        506             1,159   15,469  0       0       0       985
   2,759   0       0       0
    23242372        1,210           1,079   21,932  0       0       0
```

1,330 29,775 0 0 0
23822374 1,669 2,375 32,468 0 0 0
2,348 24,083 0 0 0
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74822380 39 117 1,145 0 0 0 118
3,210 0 0 0
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2,132 31,570 0 0 0
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1,004 3,123 0 0 0
23922390 1,006 1,122 17,099 0 0 0 125
817 0 0 0
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1,803 0 0 0
23902392 1,281 1,333 18,563 0 0 0 96
1,803 0 0 0
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13,508 0 0 0
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9,604 0 0 0
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12,465 0 0 0
60492416 158 123 1,812 0 0 0 5
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23162416 193 193 1,873 0 0 0 399
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2,581 0 0 0
24362420 545 1,160 16,886 0 0 0
1,125 11,208 0 0 0
24082420 477 862 16,035 0 0 0 795
9,746 0 0 0
24782436 536 1,155 16,851 0 0 0
1,060 10,965 0 0 0
23122436 9 4 1,751 0 0 0 65
243 0 0 0
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12,302 0 0 0
74862478 536 1,155 16,851 0 0 0
1,060 10,965 0 0 0
24362478 472 860 17,818 0 0 0 792
12,188 0 0 0
24922482 0 0 87 0 0 0 0
2,527 0 0 0
74842482 6 3 110 0 0 0 4
2,257 0 0 0
24822492 6 3 110 0 0 0 4
2,257 0 0 0
74822492 8 6 295 0 0 0 6

```
   2,734   0       0       0
    25122506        1,690           1,465   22,260  0       0       0
1,656   24,627  0       0       0
    25062508        699             543     9,761   0       0       0       787
   12,102  0       0       0
    25182512        1,688           1,461   22,166  0       0       0
1,655   24,627  0       0       0
    25082516        1,501           1,245   21,956  0       0       0
1,454   23,945  0       0       0
    24062516        451             280     6,729   0       0       0       432
   10,917  0       0       0
    25262518        1,655           1,429   21,352  0       0       0
1,619   23,339  0       0       0
    25162520        1,218           968     17,542  0       0       0
1,066   21,354  0       0       0
    25482526        1,655           1,429   21,352  0       0       0
1,619   23,440  0       0       0
    25202536        1,184           937     16,729  0       0       0
1,031   20,066  0       0       0
    25762546        735             795     17,606  0       0       0       721
   15,220  0       0       0
    76782546        996             1,199   20,523  0       0       0       891
   16,981  0       0       0
    25842548        1,650           1,423   21,312  0       0       0
1,613   23,414  0       0       0
    25362568        1,184           937     16,729  0       0       0
1,031   20,066  0       0       0
    90052576        619             678     15,553  0       0       0       657
   13,325  0       0       0
    25462576        813             1,068   19,564  0       0       0       787
   16,710  0       0       0
    27082584        1,650           1,423   21,312  0       0       0
1,613   23,414  0       0       0
    25942592        896             1,460   21,041  0       0       0
1,441   16,621  0       0       0
    95392592        472             868     17,950  0       0       0       792
   12,267  0       0       0
    25982596        918             1,348   23,387  0       0       0
1,304   19,885  0       0       0
    75702596        533             1,074   14,919  0       0       0       829
   12,410  0       0       0
    26422598        541             701     9,818   0       0       0       737
   11,620  0       0       0
    25922598        823             1,164   22,010  0       0       0
1,164   17,774  0       0       0
    26162610        533             1,074   14,921  0       0       0       829
   12,410  0       0       0
    75702610        388             723     13,832  0       0       0       598
   8,709   0       0       0
    26342616        560             1,130   14,870  0       0       0       870
   12,301  0       0       0
    26102616        388             723     13,832  0       0       0       598
   8,709   0       0       0
    75762634        560             1,130   14,870  0       0       0       870
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   12,301  0       0       0
    26162634        416             795     14,592  0       0       0       666
   9,425   0       0       0
    90052638        577             864     15,519  0       0       0       608
   12,533  0       0       0
    26382640        661             956     17,083  0       0       0       674
   13,903  0       0       0
    27022642        541             701     9,818   0       0       0       737
   11,620  0       0       0
    26902676        560             1,130   14,870  0       0       0       870
   12,301  0       0       0
    75762676        416             795     14,591  0       0       0       666
   9,426   0       0       0
    60362690        560             1,130   14,870  0       0       0       870
   12,301  0       0       0
    26762690        416             795     14,591  0       0       0       666
   9,426   0       0       0
    27142706        599             912     16,171  0       0       0       626
   13,090  0       0       0
    27102708        2,434           2,892   42,566  0       0       0
2,598   39,705  0       0       0
    75882710        599             912     16,171  0       0       0       626
   13,707  0       0       0
    27082712        784             1,468   21,254  0       0       0       985
   16,290  0       0       0
    25682712        1,184           937     16,729  0       0       0
1,031   20,066  0       0       0
    27282714        599             912     16,171  0       0       0       626
   13,090  0       0       0
    27122716        1,968           2,405   37,982  0       0       0
2,016   36,356  0       0       0
    27222720        2,125           2,333   36,075  0       0       0
2,293   33,466  0       0       0
    27262722        509             525     12,350  0       0       0       501
   10,286  0       0       0
    27422722        1,616           1,820   25,993  0       0       0
1,791   24,103  0       0       0
    73462724        653             950     12,892  0       0       0       803
   8,576   0       0       0
    27162724        1,362           1,086   20,763  0       0       0
1,206   24,032  0       0       0
    26402728        572             882     16,047  0       0       0       596
   12,734  0       0       0
    73462740        606             1,319   17,219  0       0       0       809
   12,323  0       0       0
    27482740        464             782     9,247   0       0       0       652
   5,667   0       0       0
    28162744        0               2       5,371   0       0       0       0
   3,703   0       0       0
    27542748        394             773     8,839   0       0       0       645
   5,318   0       0       0
    27402748        595             1,065   13,488  0       0       0       802
   11,772  0       0       0
    75782750        560             1,130   14,870  0       0       0       870
```

```
   12,301  0       0       0
    60362750        416             795     14,591  0       0       0       666
   9,426   0       0       0
    27642754        394             773     8,839   0       0       0       645
   5,318   0       0       0
    27482754        536             1,104   13,605  0       0       0       839
   11,861  0       0       0
    27662762        416             795     14,591  0       0       0       666
   9,426   0       0       0
    27642762        560             1,190   16,235  0       0       0       870
   12,426  0       0       0
    27702764        24              130     3,068   0       0       0       31
   618     0       0       0
    27542764        536             1,104   13,605  0       0       0       839
   11,881  0       0       0
    27622764        416             795     14,591  0       0       0       666
   9,426   0       0       0
    27622766        560             1,272   15,903  0       0       0       870
   12,426  0       0       0
    75782766        416             795     14,591  0       0       0       666
   9,426   0       0       0
    75802770        24              274     4,235   0       0       0       31
   618     0       0       0
    27642770        22              23      5,751   0       0       0       21
   4,108   0       0       0
    27402792        11              254     3,732   0       0       0       8
   551     0       0       0
    75802792        22              22      5,751   0       0       0       21
   4,108   0       0       0
    28042808        12              13      5,475   0       0       0       11
   3,813   0       0       0
    28082816        0               2       5,361   0       0       0       0
   3,693   0       0       0
    22206015        252             624     6,639   0       0       0       842
   10,131  0       0       0
    16226016        587             28      613     0       0       0       64
   2,520   0       0       0
    13446018        162             191     1,792   0       0       0       346
   3,532   0       0       0
    27506036        560             1,130   14,870  0       0       0       870
   12,301  0       0       0
    26906036        416             795     14,591  0       0       0       666
   9,426   0       0       0
    23106047        1,202           1,257   18,765  0       0       0
1,484   27,055  0       0       0
    95006048        1,281           1,333   21,412  0       0       0
1,655   28,644  0       0       0
    60506049        186             333     7,162   0       0       0       28
   501     0       0       0
    24166049        8               161     2,921   0       0       0       7
   110     0       0       0
    60516050        192             683     6,046   0       0       0       42
   576     0       0       0
    23166050        28              231     5,486   0       0       0       23
```

406 0 0 0
75746051 192 683 6,046 0 0 0 42
576 0 0 0
60496051 35 371 8,271 0 0 0 31
523 0 0 0
18486052 721 822 10,513 0 0 0 426
7,216 0 0 0
27407346 653 950 12,892 0 0 0 803
8,576 0 0 0
27167346 606 1,319 17,219 0 0 0 809
12,323 0 0 0
22187371 1,440 1,330 23,757 0 0 0
1,460 25,618 0 0 0
73767372 1,576 1,470 24,173 0 0 0
1,581 26,041 0 0 0
73777376 1,512 1,404 24,213 0 0 0
1,499 26,051 0 0 0
21827377 1,512 1,404 24,213 0 0 0
1,499 26,051 0 0 0
12507470 1,062 1,017 14,986 0 0 0
1,315 16,756 0 0 0
23167474 347 655 7,083 0 0 0 954
11,583 0 0 0
21747476 109 607 8,471 0 0 0
1,048 11,167 0 0 0
21707476 0 341 7,409 0 0 0 378
9,264 0 0 0
74797478 60 556 8,795 0 0 0 570
6,420 0 0 0
24927482 40 118 1,245 0 0 0 119
3,331 0 0 0
23807482 8 6 208 0 0 0 6
2,623 0 0 0
24207484 6 3 110 0 0 0 4
2,256 0 0 0
24827484 0 0 87 0 0 0 0
2,527 0 0 0
95397486 545 1,163 16,981 0 0 0
1,069 11,114 0 0 0
24787486 472 860 17,818 0 0 0 792
12,188 0 0 0
26107570 533 1,074 14,919 0 0 0 829
12,410 0 0 0
25967570 388 723 13,832 0 0 0 598
8,709 0 0 0
25947572 477 483 7,025 0 0 0 437
11,576 0 0 0
24167572 351 316 3,685 0 0 0 404
5,646 0 0 0
60517574 35 371 8,271 0 0 0 31
523 0 0 0
22707574 168 609 5,324 0 0 0 12
375 0 0 0
26347576 416 795 14,591 0 0 0 666

9,426 0 0 0
26767576 560 1,130 14,870 0 0 0 870
12,301 0 0 0
27507578 416 795 14,591 0 0 0 666
9,426 0 0 0
27667578 560 1,130 14,870 0 0 0 870
12,301 0 0 0
27927580 24 274 4,235 0 0 0 31
618 0 0 0
27707580 22 22 5,751 0 0 0 21
4,108 0 0 0
27067588 599 912 16,171 0 0 0 626
13,707 0 0 0
90147596 1,423 1,259 22,308 0 0 0
1,373 23,816 0 0 0
20447616 917 787 14,788 0 0 0 736
13,211 0 0 0
65027618 127 100 2,751 0 0 0 309
4,403 0 0 0
20867636 1,097 1,352 19,161 0 0 0
1,596 21,599 0 0 0
100567636 1,009 1,120 17,795 0 0 0
1,453 23,430 0 0 0
20587638 498 322 7,609 0 0 0 471
11,657 0 0 0
24067638 1,004 824 14,331 0 0 0
1,078 16,542 0 0 0
19567644 733 1,014 12,244 0 0 0 631
9,039 0 0 0
18487644 501 441 6,830 0 0 0 371
5,261 0 0 0
60187648 162 191 1,792 0 0 0 346
3,532 0 0 0
13067656 232 397 5,294 0 0 0 209
3,179 0 0 0
60167672 587 28 613 0 0 0 64
2,521 0 0 0
22807678 996 1,199 20,523 0 0 0 891
16,981 0 0 0
25467678 942 985 19,173 0 0 0 866
16,137 0 0 0
21027906 0 417 3,901 0 0 0 601
5,408 0 0 0
18667906 0 215 3,552 0 0 0 202
5,744 0 0 0
79097908 13 219 3,474 0 0 0 206
5,849 0 0 0
18547936 270 639 8,604 0 0 0 919
11,033 0 0 0
15027944 975 907 17,611 0 0 0 950
19,533 0 0 0
26389005 470 542 13,229 0 0 0 521
11,119 0 0 0
25769005 740 1,009 17,761 0 0 0 756

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   15,014  0       0       0
    22489009        433             582     10,863  0       0       0       347
   7,847   0       0       0
    20169014        1,423           1,259   21,421  0       0       0
1,373   23,074  0       0       0
    20129015        765             882     13,945  0       0       0
1,214   20,575  0       0       0
    20669016        844             1,053   15,184  0       0       0
1,442   18,493  0       0       0
    95009501        0               0       0       0       0       0       710
   7,491   0       0       0
    95019502        0               0       0       0       0       0       710
   7,491   0       0       0
    20889502        0               49      3,375   0       0       0       0
   5,016   0       0       0
    20709503        1,493           1,604   24,741  0       0       0
2,658   34,437  0       0       0
    100589509       1,177           1,524   19,930  0       0       0
1,659   21,693  0       0       0
    20869509        1,044           1,174   18,470  0       0       0
1,410   22,349  0       0       0
    19969519        1,627           1,480   23,919  0       0       0
1,582   25,442  0       0       0
    17449525        388             613     9,899   0       0       0       878
   12,154  0       0       0
    23169527        1,263           1,174   17,787  0       0       0       901
   13,725  0       0       0
    22709527        1,328           911     16,862  0       0       0       971
   8,724   0       0       0
    25929539        545             1,163   16,981  0       0       0
1,069   11,114  0       0       0
    74869539        472             868     17,950  0       0       0       792
   12,267  0       0       0
    13169552        1,051           1,766   22,069  0       0       0
1,393   18,986  0       0       0
    12509552        1,168           1,756   26,136  0       0       0
1,574   23,797  0       0       0
    130010001       351             480     6,902   0       0       0       368
   5,100   0       0       0
    141010021       295             403     4,352   0       0       0       374
   2,706   0       0       0
    1015410024      557             620     7,690   0       0       0       572
   5,313   0       0       0
    765610032       193             355     4,983   0       0       0       177
   2,974   0       0       0
    763610056       1,097           1,352   19,161  0       0       0
1,596   21,599  0       0       0
    209610056       988             1,116   17,764  0       0       0
1,466   23,668  0       0       0
    203810058       1,236           1,562   19,883  0       0       0
1,698   21,552  0       0       0
    950910058       1,065           1,198   18,927  0       0       0
1,418   22,354  0       0       0
    133210124       631             584     14,122  0       0       0       597
```

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   15,685  0       0       0
    139410126       1,021           939     18,293  0       0       0       991
   20,362  0       0       0
    135810154       530             594     7,551   0       0       0       542
   5,139   0       0       0
    190210169       77              68      1,597   0       0       0       142
   3,605   0       0       0
    21482108        0               0       0       0       0       0       711
   790     0       0       0
    21062112        0               0       0       0       0       0
1,792   2,008   0       0       0
    21402130        0               0       0       0       0       0       994
   1,353   0       0       0
    103022140       0               0       0       0       0       0       0
   0       0       0       0
    103052392       0               0       0       0       0       0       0
   0       0       0       0
    103082392       0               0       0       0       0       0       125
   74      0       0       0
    103079500       0               0       0       0       0       0
2,365   2,580   0       0       0
    211210301       0               0       0       0       0       0
2,269   2,443   0       0       0
    1030410302      0               0       0       0       0       0
1,251   1,631   0       0       0
    1030110303      0               0       0       0       0       0
2,269   2,443   0       0       0
    1030810304      0               0       0       0       0       0
1,251   1,631   0       0       0
    239210304       0               0       0       0       0       0       0
   0       0       0       0
    239210305       0               0       0       0       0       0       96
   137     0       0       0
    1030310305      0               0       0       0       0       0       0
   0       0       0       0
    1030310307      0               0       0       0       0       0
2,269   2,443   0       0       0
    1030510307      0               0       0       0       0       0       96
   137     0       0       0

    Combined Local Accident Rate Subsection
    Link            Observed        First Observed  Local Severity Split
    Name            Accidents       Accident Year   Ratio           Year


 [Section 5]    Input Data - Parameter File

    COBALT Parameter File
    Version 2,016.10

    Cost Base Year
    2010

    Appraisal Period
```

60

Discount Rate

Years from Current Year	Discount Rate (%)
30	3.50
75	3.00
125	2.50

Cost per Casualty

Severity	Cost
Fatal	1,635,937
Serious	183,834
Slight	14,172

Cost per Accident

Severity	Insurance Administration	Damage to Property Urban	Rural	Motorway	Police Cost Urban	Rural	Motorway
Fatal	300	7,822	13,267	16,876	16,951	17,407	17,610
Serious	187	4,192	6,048	14,400	1,872	2,337	2,468
Slight	113	2,473	4,009	7,285	484	664	554
Damage	54	2,473	2,644	2,541	484	20	17

Compound Annual Rates of Growth of Accident Values

Range of Years	Rate of Growth (%p.a.)
2010-2011	1.13
2011-2012	0.51
2012-2013	1.52
2013-2014	2.16
2014-2015	1.66
2015-2016	1.69
2016-2017	1.80
2017-2018	1.73
2018-2019	1.64
2019-2020	1.66
2020-2021	1.77
2021-2022	1.78
2022-2023	1.80
2023-2024	1.91
2024-2025	1.93
2025-2026	1.94
2026-2027	1.96
2027-2028	1.98
2028-2029	1.99
2029-2030	2.01
2030-2031	2.02
2031-2032	2.04
2032-2033	2.05

2033-2034	2.16
2034-2035	2.07
2035-2036	2.08
2036-2040	2.09
2040-2045	2.11
2045-2046	2.24
2046-2050	2.14
2050-2055	2.07
2055-2057	2.09
2057-2059	2.19
2059-2060	2.29
2060-2063	2.30
2063-2065	2.20
2065-2070	2.18
2070-2085	2.17
2085-2110	2.18

Number of Damage Only Accidents per PIA

	Urban	Rural	Motorway
Damage	17.7	7.8	7.6

Link Only Accident Proportions

Base Year

2009

Road Type	Speed Limit (mph)	Accident Proportions Fatal	Serious	Slight
1	50	0.019	0.104	0.877
1	60	0.019	0.104	0.877
1	70	0.019	0.104	0.877
1	80	0.019	0.104	0.877
2	50	0.019	0.104	0.877
2	60	0.019	0.104	0.877
2	70	0.019	0.104	0.877
2	80	0.019	0.104	0.877
3	50	0.019	0.104	0.877
3	60	0.019	0.104	0.877
3	70	0.019	0.104	0.877
3	80	0.019	0.104	0.877
4	30	0.014	0.145	0.841
4	40	0.014	0.145	0.841
4	50	0.046	0.206	0.748
4	60	0.046	0.206	0.748
4	70	0.046	0.206	0.748
4	80	0.046	0.206	0.748
5	30	0.014	0.145	0.841
5	40	0.014	0.145	0.841
5	50	0.046	0.206	0.748
5	60	0.046	0.206	0.748
5	70	0.046	0.206	0.748
5	80	0.046	0.206	0.748
6	30	0.014	0.145	0.841
6	40	0.014	0.145	0.841
6	50	0.046	0.206	0.748
6	60	0.046	0.206	0.748

6	70	0.046	0.206	0.748
6	80	0.046	0.206	0.748
7	30	0.014	0.145	0.841
7	40	0.014	0.145	0.841
7	50	0.046	0.206	0.748
7	60	0.046	0.206	0.748
7	70	0.046	0.206	0.748
7	80	0.046	0.206	0.748
8	30	0.014	0.145	0.841
8	40	0.014	0.145	0.841
8	50	0.046	0.206	0.748
8	60	0.046	0.206	0.748
8	70	0.046	0.206	0.748
8	80	0.046	0.206	0.748
9	30	0.010	0.145	0.846
9	40	0.010	0.145	0.846
9	50	0.026	0.193	0.780
9	60	0.026	0.193	0.780
9	70	0.026	0.193	0.780
9	80	0.026	0.193	0.780
10	30	0.017	0.135	0.849
10	40	0.017	0.135	0.849
10	50	0.028	0.135	0.837
10	60	0.028	0.135	0.837
10	70	0.028	0.135	0.837
10	80	0.028	0.135	0.837
11	30	0.017	0.135	0.849
11	40	0.017	0.135	0.849
11	50	0.028	0.135	0.837
11	60	0.028	0.135	0.837
11	70	0.028	0.135	0.837
11	80	0.028	0.135	0.837
12	30	0.017	0.135	0.849
12	40	0.017	0.135	0.849
12	50	0.028	0.135	0.837
12	60	0.028	0.135	0.837
12	70	0.028	0.135	0.837
12	80	0.028	0.135	0.837
13	30	0.017	0.135	0.849
13	40	0.017	0.135	0.849
13	50	0.028	0.135	0.837
13	60	0.028	0.135	0.837
13	70	0.028	0.135	0.837
13	80	0.028	0.135	0.837
14	30	0.017	0.135	0.849
14	40	0.017	0.135	0.849
14	50	0.028	0.135	0.837
14	60	0.028	0.135	0.837
14	70	0.028	0.135	0.837
14	80	0.028	0.135	0.837
15	30	0.017	0.135	0.849
15	40	0.017	0.135	0.849
15	50	0.028	0.135	0.837
15	60	0.028	0.135	0.837

15	70	0.028	0.135	0.837
15	80	0.028	0.135	0.837

Link and Junction Combined Accident Proportions

Base Year

2009

Road Type	Speed Limit (mph)	Accident Proportions Fatal	Serious	Slight
1	50	0.018	0.101	0.882
1	60	0.018	0.101	0.882
1	70	0.018	0.101	0.882
1	80	0.018	0.101	0.882
2	50	0.018	0.101	0.882
2	60	0.018	0.101	0.882
2	70	0.018	0.101	0.882
2	80	0.018	0.101	0.882
3	50	0.018	0.101	0.882
3	60	0.018	0.101	0.882
3	70	0.018	0.101	0.882
3	80	0.018	0.101	0.882
4	30	0.008	0.122	0.869
4	40	0.008	0.122	0.869
4	50	0.034	0.187	0.779
4	60	0.034	0.187	0.779
4	70	0.034	0.187	0.779
4	80	0.034	0.187	0.779
5	30	0.008	0.122	0.869
5	40	0.008	0.122	0.869
5	50	0.034	0.187	0.779
5	60	0.034	0.187	0.779
5	70	0.034	0.187	0.779
5	80	0.034	0.187	0.779
6	30	0.008	0.122	0.869
6	40	0.008	0.122	0.869
6	50	0.034	0.187	0.779
6	60	0.034	0.187	0.779
6	70	0.034	0.187	0.779
6	80	0.034	0.187	0.779
7	30	0.008	0.122	0.869
7	40	0.008	0.122	0.869
7	50	0.034	0.187	0.779
7	60	0.034	0.187	0.779
7	70	0.034	0.187	0.779
7	80	0.034	0.187	0.779
8	30	0.008	0.122	0.869
8	40	0.008	0.122	0.869
8	50	0.034	0.187	0.779
8	60	0.034	0.187	0.779
8	70	0.034	0.187	0.779
8	80	0.034	0.187	0.779
9	30	0.007	0.126	0.867
9	40	0.007	0.126	0.867
9	50	0.024	0.187	0.789
9	60	0.024	0.187	0.789

9	70	0.024	0.187	0.789
9	80	0.024	0.187	0.789
10	30	0.009	0.104	0.887
10	40	0.009	0.104	0.887
10	50	0.023	0.127	0.850
10	60	0.023	0.127	0.850
10	70	0.023	0.127	0.850
10	80	0.023	0.127	0.850
11	30	0.009	0.104	0.887
11	40	0.009	0.104	0.887
11	50	0.023	0.127	0.850
11	60	0.023	0.127	0.850
11	70	0.023	0.127	0.850
11	80	0.023	0.127	0.850
12	30	0.009	0.104	0.887
12	40	0.009	0.104	0.887
12	50	0.023	0.127	0.850
12	60	0.023	0.127	0.850
12	70	0.023	0.127	0.850
12	80	0.023	0.127	0.850
13	30	0.009	0.104	0.887
13	40	0.009	0.104	0.887
13	50	0.023	0.127	0.850
13	60	0.023	0.127	0.850
13	70	0.023	0.127	0.850
13	80	0.023	0.127	0.850
14	30	0.009	0.104	0.887
14	40	0.009	0.104	0.887
14	50	0.023	0.127	0.850
14	60	0.023	0.127	0.850
14	70	0.023	0.127	0.850
14	80	0.023	0.127	0.850
15	30	0.009	0.104	0.887
15	40	0.009	0.104	0.887
15	50	0.023	0.127	0.850
15	60	0.023	0.127	0.850
15	70	0.023	0.127	0.850
15	80	0.023	0.127	0.850

Junction Only Accident Proportions

Base Year

2000

Road Type	Speed Limit (mph)	Accident Proportions Fatal	Serious	Slight
1	50	0.024	0.188	0.787
1	60	0.024	0.188	0.787
1	70	0.024	0.188	0.787
1	80	0.024	0.188	0.787
2	30	0.007	0.124	0.869
2	40	0.007	0.124	0.869
3	50	0.024	0.188	0.787
3	60	0.024	0.188	0.787
3	70	0.024	0.188	0.787
3	80	0.024	0.188	0.787

4	30	0.007	0.124	0.869
4	40	0.007	0.124	0.869
5	50	0.027	0.206	0.766
5	60	0.027	0.206	0.766
5	70	0.027	0.206	0.766
5	80	0.027	0.206	0.766
6	30	0.006	0.116	0.878
6	40	0.006	0.116	0.878
7	50	0.027	0.206	0.766
7	60	0.027	0.206	0.766
7	70	0.027	0.206	0.766
7	80	0.027	0.206	0.766
8	30	0.006	0.116	0.878
8	40	0.006	0.116	0.878
9	50	0.027	0.206	0.766
9	60	0.027	0.206	0.766
9	70	0.027	0.206	0.766
9	80	0.027	0.206	0.766
10	30	0.006	0.116	0.878
10	40	0.006	0.116	0.878
11	50	0.027	0.206	0.766
11	60	0.027	0.206	0.766
11	70	0.027	0.206	0.766
11	80	0.027	0.206	0.766
12	30	0.006	0.116	0.878
12	40	0.006	0.116	0.878
13	50	0.024	0.188	0.787
13	60	0.024	0.188	0.787
13	70	0.024	0.188	0.787
13	80	0.024	0.188	0.787
14	30	0.007	0.124	0.869
14	40	0.007	0.124	0.869
15	50	0.024	0.188	0.787
15	60	0.024	0.188	0.787
15	70	0.024	0.188	0.787
15	80	0.024	0.188	0.787
16	30	0.007	0.124	0.869
16	40	0.007	0.124	0.869
17	50	0.027	0.206	0.766
17	60	0.027	0.206	0.766
17	70	0.027	0.206	0.766
17	80	0.027	0.206	0.766
18	30	0.006	0.116	0.878
18	40	0.006	0.116	0.878
19	50	0.027	0.206	0.766
19	60	0.027	0.206	0.766
19	70	0.027	0.206	0.766
19	80	0.027	0.206	0.766
20	30	0.006	0.116	0.878
20	40	0.006	0.116	0.878
21	50	0.027	0.206	0.766
21	60	0.027	0.206	0.766
21	70	0.027	0.206	0.766
21	80	0.027	0.206	0.766

22	30	0.006	0.116	0.878
22	40	0.006	0.116	0.878
23	50	0.027	0.206	0.766
23	60	0.027	0.206	0.766
23	70	0.027	0.206	0.766
23	80	0.027	0.206	0.766
24	30	0.006	0.116	0.878
24	40	0.006	0.116	0.878
25	50	0.024	0.188	0.787
25	60	0.024	0.188	0.787
25	70	0.024	0.188	0.787
25	80	0.024	0.188	0.787
26	30	0.007	0.124	0.869
26	40	0.007	0.124	0.869
27	50	0.024	0.188	0.787
27	60	0.024	0.188	0.787
27	70	0.024	0.188	0.787
27	80	0.024	0.188	0.787
28	30	0.007	0.124	0.869
28	40	0.007	0.124	0.869
29	50	0.027	0.206	0.766
29	60	0.027	0.206	0.766
29	70	0.027	0.206	0.766
29	80	0.027	0.206	0.766
30	30	0.006	0.116	0.878
30	40	0.006	0.116	0.878
31	50	0.027	0.206	0.766
31	60	0.027	0.206	0.766
31	70	0.027	0.206	0.766
31	80	0.027	0.206	0.766
32	30	0.006	0.116	0.878
32	40	0.006	0.116	0.878
33	50	0.027	0.206	0.766
33	60	0.027	0.206	0.766
33	70	0.027	0.206	0.766
33	80	0.027	0.206	0.766
34	30	0.006	0.116	0.878
34	40	0.006	0.116	0.878
35	50	0.027	0.206	0.766
35	60	0.027	0.206	0.766
35	70	0.027	0.206	0.766
35	80	0.027	0.206	0.766
36	30	0.006	0.116	0.878
36	40	0.006	0.116	0.878
37	50	0.009	0.117	0.874
37	60	0.009	0.117	0.874
37	70	0.009	0.117	0.874
37	80	0.009	0.117	0.874
38	30	0.006	0.107	0.887
38	40	0.006	0.107	0.887
39	50	0.009	0.117	0.874
39	60	0.009	0.117	0.874
39	70	0.009	0.117	0.874
39	80	0.009	0.117	0.874

40	30	0.006	0.107	0.887
40	40	0.006	0.107	0.887
41	50	0.009	0.115	0.876
41	60	0.009	0.115	0.876
41	70	0.009	0.115	0.876
41	80	0.009	0.115	0.876
42	30	0.006	0.107	0.887
42	40	0.006	0.107	0.887
43	50	0.009	0.115	0.876
43	60	0.009	0.115	0.876
43	70	0.009	0.115	0.876
43	80	0.009	0.115	0.876
44	30	0.006	0.107	0.887
44	40	0.006	0.107	0.887
45	50	0.009	0.115	0.876
45	60	0.009	0.115	0.876
45	70	0.009	0.115	0.876
45	80	0.009	0.115	0.876
46	30	0.006	0.107	0.887
46	40	0.006	0.107	0.887
47	50	0.009	0.115	0.876
47	60	0.009	0.115	0.876
47	70	0.009	0.115	0.876
47	80	0.009	0.115	0.876
48	30	0.006	0.107	0.887
48	40	0.006	0.107	0.887
49	50	0.006	0.091	0.903
49	60	0.006	0.091	0.903
49	70	0.006	0.091	0.903
49	80	0.006	0.091	0.903
50	30	0.003	0.075	0.923
50	40	0.003	0.075	0.923
51	50	0.006	0.091	0.903
51	60	0.006	0.091	0.903
51	70	0.006	0.091	0.903
51	80	0.006	0.091	0.903
52	30	0.003	0.075	0.923
52	40	0.003	0.075	0.923
53	50	0.006	0.091	0.903
53	60	0.006	0.091	0.903
53	70	0.006	0.091	0.903
53	80	0.006	0.091	0.903
54	30	0.003	0.075	0.923
54	40	0.003	0.075	0.923
55	50	0.006	0.091	0.903
55	60	0.006	0.091	0.903
55	70	0.006	0.091	0.903
55	80	0.006	0.091	0.903
56	30	0.003	0.075	0.923
56	40	0.003	0.075	0.923
57	50	0.006	0.091	0.903
57	60	0.006	0.091	0.903
57	70	0.006	0.091	0.903
57	80	0.006	0.091	0.903

58	30	0.003	0.075	0.923
58	40	0.003	0.075	0.923
59	50	0.006	0.091	0.903
59	60	0.006	0.091	0.903
59	70	0.006	0.091	0.903
59	80	0.006	0.091	0.903
60	30	0.003	0.075	0.923
60	40	0.003	0.075	0.923
61	50	0.006	0.091	0.903
61	60	0.006	0.091	0.903
61	70	0.006	0.091	0.903
61	80	0.006	0.091	0.903
62	30	0.003	0.075	0.923
62	40	0.003	0.075	0.923
63	50	0.006	0.091	0.903
63	60	0.006	0.091	0.903
63	70	0.006	0.091	0.903
63	80	0.006	0.091	0.903
64	30	0.003	0.075	0.923
64	40	0.003	0.075	0.923
65	50	0.006	0.091	0.903
65	60	0.006	0.091	0.903
65	70	0.006	0.091	0.903
65	80	0.006	0.091	0.903
66	30	0.003	0.075	0.923
66	40	0.003	0.075	0.923
67	50	0.006	0.091	0.903
67	60	0.006	0.091	0.903
67	70	0.006	0.091	0.903
67	80	0.006	0.091	0.903
68	30	0.003	0.075	0.923
68	40	0.003	0.075	0.923
69	50	0.006	0.091	0.903
69	60	0.006	0.091	0.903
69	70	0.006	0.091	0.903
69	80	0.006	0.091	0.903
70	30	0.003	0.075	0.923
70	40	0.003	0.075	0.923
71	50	0.006	0.091	0.903
71	60	0.006	0.091	0.903
71	70	0.006	0.091	0.903
71	80	0.006	0.091	0.903
72	30	0.003	0.075	0.923
72	40	0.003	0.075	0.923
73	50	0.006	0.091	0.903
73	60	0.006	0.091	0.903
73	70	0.006	0.091	0.903
73	80	0.006	0.091	0.903
74	30	0.003	0.087	0.910
74	40	0.003	0.087	0.910
75	50	0.006	0.091	0.903
75	60	0.006	0.091	0.903
75	70	0.006	0.091	0.903
75	80	0.006	0.091	0.903

76	30	0.003	0.087	0.910
76	40	0.003	0.087	0.910
77	50	0.006	0.091	0.903
77	60	0.006	0.091	0.903
77	70	0.006	0.091	0.903
77	80	0.006	0.091	0.903
78	30	0.003	0.087	0.910
78	40	0.003	0.087	0.910
79	50	0.006	0.091	0.903
79	60	0.006	0.091	0.903
79	70	0.006	0.091	0.903
79	80	0.006	0.091	0.903
80	30	0.003	0.087	0.910
80	40	0.003	0.087	0.910
81	50	0.006	0.091	0.903
81	60	0.006	0.091	0.903
81	70	0.006	0.091	0.903
81	80	0.006	0.091	0.903
82	30	0.003	0.087	0.910
82	40	0.003	0.087	0.910
83	50	0.006	0.091	0.903
83	60	0.006	0.091	0.903
83	70	0.006	0.091	0.903
83	80	0.006	0.091	0.903
84	30	0.003	0.087	0.910
84	40	0.003	0.087	0.910
85	50	0.004	0.062	0.934
85	60	0.004	0.062	0.934
85	70	0.004	0.062	0.934
85	80	0.004	0.062	0.934
86	30	0.003	0.064	0.933
86	40	0.003	0.064	0.933
87	50	0.004	0.062	0.934
87	60	0.004	0.062	0.934
87	70	0.004	0.062	0.934
87	80	0.004	0.062	0.934
88	30	0.003	0.064	0.933
88	40	0.003	0.064	0.933
89	50	0.004	0.062	0.934
89	60	0.004	0.062	0.934
89	70	0.004	0.062	0.934
89	80	0.004	0.062	0.934
90	30	0.003	0.064	0.933
90	40	0.003	0.064	0.933
91	50	0.004	0.062	0.934
91	60	0.004	0.062	0.934
91	70	0.004	0.062	0.934
91	80	0.004	0.062	0.934
92	30	0.003	0.064	0.933
92	40	0.003	0.064	0.933
93	50	0.004	0.062	0.934
93	60	0.004	0.062	0.934
93	70	0.004	0.062	0.934
93	80	0.004	0.062	0.934

94	30	0.003	0.064	0.933
94	40	0.003	0.064	0.933
95	50	0.004	0.062	0.934
95	60	0.004	0.062	0.934
95	70	0.004	0.062	0.934
95	80	0.004	0.062	0.934
96	30	0.003	0.064	0.933
96	40	0.003	0.064	0.933

Link Only Accident Rates and Change Factors
Base Year
2009

Road Type	Speed Limit (mph)	Accident Rate	Beta Factor
1	50	0.063	0.956
1	60	0.063	0.956
1	70	0.063	0.956
2	50	0.063	0.956
2	60	0.063	0.956
2	70	0.063	0.956
3	50	0.075	0.956
3	60	0.075	0.956
3	70	0.075	0.956
4	30	0.175	0.964
4	40	0.175	0.964
4	50	0.143	0.958
4	60	0.143	0.958
4	70	0.143	0.958
4	80	0.143	0.958
5	30	0.175	0.964
5	40	0.175	0.964
5	50	0.143	0.958
5	60	0.143	0.958
5	70	0.143	0.958
5	80	0.143	0.958
6	30	0.206	0.964
6	40	0.206	0.964
6	50	0.082	0.958
6	60	0.082	0.958
6	70	0.082	0.958
6	80	0.082	0.958
7	30	0.206	0.964
7	40	0.206	0.964
7	50	0.082	0.958
7	60	0.082	0.958
7	70	0.082	0.958
7	80	0.082	0.958
8	30	0.206	0.964
8	40	0.206	0.964
8	50	0.143	0.958
8	60	0.143	0.958
8	70	0.143	0.958
8	80	0.143	0.958
9	30	0.195	0.957

9	40	0.195	0.957
9	50	0.163	0.935
9	60	0.163	0.935
9	70	0.163	0.935
9	80	0.163	0.935
10	30	0.148	0.965
10	40	0.148	0.965
10	50	0.077	0.960
10	60	0.077	0.960
10	70	0.077	0.960
10	80	0.077	0.960
11	30	0.154	0.965
11	40	0.154	0.965
11	50	0.059	0.960
11	60	0.059	0.960
11	70	0.059	0.960
11	80	0.059	0.960
12	30	0.154	0.965
12	40	0.154	0.965
12	50	0.077	0.960
12	60	0.077	0.960
12	70	0.077	0.960
12	80	0.077	0.960
13	30	0.184	0.949
13	40	0.184	0.949
13	50	0.101	0.956
13	60	0.101	0.956
13	70	0.101	0.956
13	80	0.101	0.956
14	30	0.184	0.949
14	40	0.184	0.949
14	50	0.101	0.956
14	60	0.101	0.956
14	70	0.101	0.956
14	80	0.101	0.956
15	30	0.184	0.949
15	40	0.184	0.949
15	50	0.101	0.956
15	60	0.101	0.956
15	70	0.101	0.956
15	80	0.101	0.956

Link and Junction Combined Accident Rates and Change Factors
Base Year
2009

Road Type	Speed Limit (mph)	Accident Rate	Beta Factor
1	50	0.080	0.956
1	60	0.080	0.956
1	70	0.080	0.956
2	50	0.067	0.956
2	60	0.067	0.956
2	70	0.067	0.956
3	50	0.079	0.956

3	60	0.079	0.956
3	70	0.079	0.956
4	30	0.532	0.959
4	40	0.532	0.959
4	50	0.244	0.955
4	60	0.244	0.955
4	70	0.244	0.955
4	80	0.244	0.955
5	30	0.532	0.959
5	40	0.532	0.959
5	50	0.244	0.955
5	60	0.244	0.955
5	70	0.244	0.955
5	80	0.244	0.955
6	30	0.863	0.959
6	40	0.863	0.959
6	50	0.163	0.955
6	60	0.163	0.955
6	70	0.163	0.955
6	80	0.163	0.955
7	30	0.863	0.959
7	40	0.863	0.959
7	50	0.163	0.955
7	60	0.163	0.955
7	70	0.163	0.955
7	80	0.163	0.955
8	30	0.863	0.959
8	40	0.863	0.959
8	50	0.244	0.955
8	60	0.244	0.955
8	70	0.244	0.955
8	80	0.244	0.955
9	30	0.559	0.951
9	40	0.559	0.951
9	50	0.233	0.933
9	60	0.233	0.933
9	70	0.233	0.933
9	80	0.233	0.933
10	30	0.553	0.967
10	40	0.553	0.967
10	50	0.107	0.956
10	60	0.107	0.956
10	70	0.107	0.956
10	80	0.107	0.956
11	30	0.599	0.967
11	40	0.599	0.967
11	50	0.072	0.956
11	60	0.072	0.956
11	70	0.072	0.956
11	80	0.072	0.956
12	30	0.599	0.967
12	40	0.599	0.967
12	50	0.107	0.956
12	60	0.107	0.956

12	70	0.107	0.956
12	80	0.107	0.956
13	30	0.620	0.951
13	40	0.620	0.951
13	50	0.123	0.946
13	60	0.123	0.946
13	70	0.123	0.946
13	80	0.123	0.946
14	30	0.620	0.951
14	40	0.620	0.951
14	50	0.123	0.946
14	60	0.123	0.946
14	70	0.123	0.946
14	80	0.123	0.946
15	30	0.620	0.951
15	40	0.620	0.951
15	50	0.123	0.946
15	60	0.123	0.946
15	70	0.123	0.946
15	80	0.123	0.946

Link Only and Link and Junction Combined Accident Beta Factor Changes over Time

Range of Years	Change to Beta Factor
2004-2019	1.000
2020-2029	0.500
2030-2039	0.250
2040-2153	0.000

Link Only Casualty Rates

Base Year

2009

Road Type	Speed Limit (mph)	Casualties per P.I.A. Fatal	Serious	Slight
1	50	0.021	0.129	1.464
1	60	0.021	0.129	1.464
1	70	0.021	0.129	1.464
2	50	0.021	0.129	1.464
2	60	0.021	0.129	1.464
2	70	0.021	0.129	1.464
3	50	0.021	0.129	1.464
3	60	0.021	0.129	1.464
3	70	0.021	0.129	1.464
4	30	0.015	0.162	1.154
4	40	0.015	0.162	1.154
4	50	0.052	0.274	1.251
4	60	0.052	0.274	1.251
4	70	0.052	0.274	1.251
4	80	0.052	0.274	1.251
5	30	0.015	0.162	1.154
5	40	0.015	0.162	1.154
5	50	0.052	0.274	1.251
5	60	0.052	0.274	1.251
5	70	0.052	0.274	1.251

5	80	0.052	0.274	1.251
6	30	0.015	0.162	1.154
6	40	0.015	0.162	1.154
6	50	0.052	0.274	1.251
6	60	0.052	0.274	1.251
6	70	0.052	0.274	1.251
6	80	0.052	0.274	1.251
7	30	0.015	0.162	1.154
7	40	0.015	0.162	1.154
7	50	0.052	0.274	1.251
7	60	0.052	0.274	1.251
7	70	0.052	0.274	1.251
7	80	0.052	0.274	1.251
8	30	0.015	0.162	1.154
8	40	0.015	0.162	1.154
8	50	0.052	0.274	1.251
8	60	0.052	0.274	1.251
8	70	0.052	0.274	1.251
8	80	0.052	0.274	1.251
9	30	0.010	0.156	1.071
9	40	0.010	0.156	1.071
9	50	0.028	0.230	1.178
9	60	0.028	0.230	1.178
9	70	0.028	0.230	1.178
9	80	0.028	0.230	1.178
10	30	0.018	0.148	1.183
10	40	0.018	0.148	1.183
10	50	0.031	0.161	1.328
10	60	0.031	0.161	1.328
10	70	0.031	0.161	1.328
10	80	0.031	0.161	1.328
11	30	0.018	0.148	1.183
11	40	0.018	0.148	1.183
11	50	0.031	0.161	1.328
11	60	0.031	0.161	1.328
11	70	0.031	0.161	1.328
11	80	0.031	0.161	1.328
12	30	0.018	0.148	1.183
12	40	0.018	0.148	1.183
12	50	0.031	0.161	1.328
12	60	0.031	0.161	1.328
12	70	0.031	0.161	1.328
12	80	0.031	0.161	1.328
13	30	0.018	0.148	1.183
13	40	0.018	0.148	1.183
13	50	0.031	0.161	1.328
13	60	0.031	0.161	1.328
13	70	0.031	0.161	1.328
13	80	0.031	0.161	1.328
14	30	0.018	0.148	1.183
14	40	0.018	0.148	1.183
14	50	0.031	0.161	1.328
14	60	0.031	0.161	1.328
14	70	0.031	0.161	1.328

14	80	0.031	0.161	1.328
15	30	0.018	0.148	1.183
15	40	0.018	0.148	1.183
15	50	0.031	0.161	1.328
15	60	0.031	0.161	1.328
15	70	0.031	0.161	1.328
15	80	0.031	0.161	1.328

Link and Junction Combined Casualty Rates
Base Year
2009

Road Type	Speed Limit (mph)	Casualties per P.I.A. Fatal	Serious	Slight
1	50	0.020	0.123	1.455
1	60	0.020	0.123	1.455
1	70	0.020	0.123	1.455
2	50	0.020	0.123	1.455
2	60	0.020	0.123	1.455
2	70	0.020	0.123	1.455
3	50	0.020	0.123	1.455
3	60	0.020	0.123	1.455
3	70	0.020	0.123	1.455
4	30	0.009	0.132	1.176
4	40	0.009	0.132	1.176
4	50	0.038	0.238	1.300
4	60	0.038	0.238	1.300
4	70	0.038	0.238	1.300
4	80	0.038	0.238	1.300
5	30	0.009	0.132	1.176
5	40	0.009	0.132	1.176
5	50	0.038	0.238	1.300
5	60	0.038	0.238	1.300
5	70	0.038	0.238	1.300
5	80	0.038	0.238	1.300
6	30	0.009	0.132	1.176
6	40	0.009	0.132	1.176
6	50	0.038	0.238	1.300
6	60	0.038	0.238	1.300
6	70	0.038	0.238	1.300
6	80	0.038	0.238	1.300
7	30	0.009	0.132	1.176
7	40	0.009	0.132	1.176
7	50	0.038	0.238	1.300
7	60	0.038	0.238	1.300
7	70	0.038	0.238	1.300
7	80	0.038	0.238	1.300
8	30	0.009	0.132	1.176
8	40	0.009	0.132	1.176
8	50	0.038	0.238	1.300
8	60	0.038	0.238	1.300
8	70	0.038	0.238	1.300
8	80	0.038	0.238	1.300
9	30	0.007	0.134	1.132
9	40	0.007	0.134	1.132

9	50	0.026	0.222	1.218
9	60	0.026	0.222	1.218
9	70	0.026	0.222	1.218
9	80	0.026	0.222	1.218
10	30	0.009	0.112	1.238
10	40	0.009	0.112	1.238
10	50	0.025	0.151	1.297
10	60	0.025	0.151	1.297
10	70	0.025	0.151	1.297
10	80	0.025	0.151	1.297
11	30	0.009	0.112	1.238
11	40	0.009	0.112	1.238
11	50	0.025	0.151	1.297
11	60	0.025	0.151	1.297
11	70	0.025	0.151	1.297
11	80	0.025	0.151	1.297
12	30	0.009	0.112	1.238
12	40	0.009	0.112	1.238
12	50	0.025	0.151	1.297
12	60	0.025	0.151	1.297
12	70	0.025	0.151	1.297
12	80	0.025	0.151	1.297
13	30	0.009	0.112	1.238
13	40	0.009	0.112	1.238
13	50	0.025	0.151	1.297
13	60	0.025	0.151	1.297
13	70	0.025	0.151	1.297
13	80	0.025	0.151	1.297
14	30	0.009	0.112	1.238
14	40	0.009	0.112	1.238
14	50	0.025	0.151	1.297
14	60	0.025	0.151	1.297
14	70	0.025	0.151	1.297
14	80	0.025	0.151	1.297
15	30	0.009	0.112	1.238
15	40	0.009	0.112	1.238
15	50	0.025	0.151	1.297
15	60	0.025	0.151	1.297
15	70	0.025	0.151	1.297
15	80	0.025	0.151	1.297

Link Only Casualty Change Factors

Base Year

2009

Road Type	Speed Limit (mph)	Beta Factor		
		Fatal	Serious	Slight
1	50	0.978	0.979	1.002
1	60	0.978	0.979	1.002
1	70	0.978	0.979	1.002
2	50	0.978	0.979	1.002
2	60	0.978	0.979	1.002
2	70	0.978	0.979	1.002
3	50	0.978	0.979	1.002
3	60	0.978	0.979	1.002

3	70	0.978	0.979	1.002
4	30	0.971	0.995	1.001
4	40	0.971	0.995	1.001
4	50	0.979	0.983	1.002
4	60	0.979	0.983	1.002
4	70	0.979	0.983	1.002
4	80	0.979	0.983	1.002
5	30	0.971	0.995	1.001
5	40	0.971	0.995	1.001
5	50	0.979	0.983	1.002
5	60	0.979	0.983	1.002
5	70	0.979	0.983	1.002
5	80	0.979	0.983	1.002
6	30	0.971	0.995	1.001
6	40	0.971	0.995	1.001
6	50	0.979	0.983	1.002
6	60	0.979	0.983	1.002
6	70	0.979	0.983	1.002
6	80	0.979	0.983	1.002
7	30	0.971	0.995	1.001
7	40	0.971	0.995	1.001
7	50	0.979	0.983	1.002
7	60	0.979	0.983	1.002
7	70	0.979	0.983	1.002
7	80	0.979	0.983	1.002
8	30	0.971	0.995	1.001
8	40	0.971	0.995	1.001
8	50	0.979	0.983	1.002
8	60	0.979	0.983	1.002
8	70	0.979	0.983	1.002
8	80	0.979	0.983	1.002
9	30	0.985	0.997	1.001
9	40	0.985	0.997	1.001
9	50	0.987	0.989	0.998
9	60	0.987	0.989	0.998
9	70	0.987	0.989	0.998
9	80	0.987	0.989	0.998
10	30	0.998	0.990	1.002
10	40	0.998	0.990	1.002
10	50	0.984	0.985	0.998
10	60	0.984	0.985	0.998
10	70	0.984	0.985	0.998
10	80	0.984	0.985	0.998
11	30	0.998	0.990	1.002
11	40	0.998	0.990	1.002
11	50	0.984	0.985	0.998
11	60	0.984	0.985	0.998
11	70	0.984	0.985	0.998
11	80	0.984	0.985	0.998
12	30	0.998	0.990	1.002
12	40	0.998	0.990	1.002
12	50	0.984	0.985	0.998
12	60	0.984	0.985	0.998
12	70	0.984	0.985	0.998

12	80	0.984	0.985	0.998
13	30	0.998	0.990	1.002
13	40	0.998	0.990	1.002
13	50	0.984	0.985	0.998
13	60	0.984	0.985	0.998
13	70	0.984	0.985	0.998
13	80	0.984	0.985	0.998
14	30	0.998	0.990	1.002
14	40	0.998	0.990	1.002
14	50	0.984	0.985	0.998
14	60	0.984	0.985	0.998
14	70	0.984	0.985	0.998
14	80	0.984	0.985	0.998
15	30	0.998	0.990	1.002
15	40	0.998	0.990	1.002
15	50	0.984	0.985	0.998
15	60	0.984	0.985	0.998
15	70	0.984	0.985	0.998
15	80	0.984	0.985	0.998

Link and Junction Combined Casualty Change Factors

Base Year

2009

Road Type	Speed Limit (mph)	Beta Factor		
		Fatal	Serious	Slight
1	50	0.978	0.979	1.002
1	60	0.978	0.979	1.002
1	70	0.978	0.979	1.002
2	50	0.978	0.979	1.002
2	60	0.978	0.979	1.002
2	70	0.978	0.979	1.002
3	50	0.978	0.979	1.002
3	60	0.978	0.979	1.002
3	70	0.978	0.979	1.002
4	30	0.971	0.995	1.001
4	40	0.971	0.995	1.001
4	50	0.979	0.983	1.002
4	60	0.979	0.983	1.002
4	70	0.979	0.983	1.002
4	80	0.979	0.983	1.002
5	30	0.971	0.995	1.001
5	40	0.971	0.995	1.001
5	50	0.979	0.983	1.002
5	60	0.979	0.983	1.002
5	70	0.979	0.983	1.002
5	80	0.979	0.983	1.002
6	30	0.971	0.995	1.001
6	40	0.971	0.995	1.001
6	50	0.979	0.983	1.002
6	60	0.979	0.983	1.002
6	70	0.979	0.983	1.002
6	80	0.979	0.983	1.002
7	30	0.971	0.995	1.001
7	40	0.971	0.995	1.001

7	50	0.979	0.983	1.002
7	60	0.979	0.983	1.002
7	70	0.979	0.983	1.002
7	80	0.979	0.983	1.002
8	30	0.971	0.995	1.001
8	40	0.971	0.995	1.001
8	50	0.979	0.983	1.002
8	60	0.979	0.983	1.002
8	70	0.979	0.983	1.002
8	80	0.979	0.983	1.002
9	30	0.985	0.997	1.001
9	40	0.985	0.997	1.001
9	50	0.987	0.989	0.998
9	60	0.987	0.989	0.998
9	70	0.987	0.989	0.998
9	80	0.987	0.989	0.998
10	30	0.998	0.990	1.002
10	40	0.998	0.990	1.002
10	50	0.984	0.985	0.998
10	60	0.984	0.985	0.998
10	70	0.984	0.985	0.998
10	80	0.984	0.985	0.998
11	30	0.998	0.990	1.002
11	40	0.998	0.990	1.002
11	50	0.984	0.985	0.998
11	60	0.984	0.985	0.998
11	70	0.984	0.985	0.998
11	80	0.984	0.985	0.998
12	30	0.998	0.990	1.002
12	40	0.998	0.990	1.002
12	50	0.984	0.985	0.998
12	60	0.984	0.985	0.998
12	70	0.984	0.985	0.998
12	80	0.984	0.985	0.998
13	30	0.998	0.990	1.002
13	40	0.998	0.990	1.002
13	50	0.984	0.985	0.998
13	60	0.984	0.985	0.998
13	70	0.984	0.985	0.998
13	80	0.984	0.985	0.998
14	30	0.998	0.990	1.002
14	40	0.998	0.990	1.002
14	50	0.984	0.985	0.998
14	60	0.984	0.985	0.998
14	70	0.984	0.985	0.998
14	80	0.984	0.985	0.998
15	30	0.998	0.990	1.002
15	40	0.998	0.990	1.002
15	50	0.984	0.985	0.998
15	60	0.984	0.985	0.998
15	70	0.984	0.985	0.998
15	80	0.984	0.985	0.998

Link Only and Link and Junction Combined Casualty Beta Factor Changes over

Time

Range of Years	Change to Beta Factor
1995-2019	1.000
2020-2144	0.000

Junction Only Accident Parameters

Base Year

1997

Junction Type	Speed Limit (mph)	Coefficient 'a'	Power 'b'	Arms	Highest Link (S/D)	Formula Type
1	50	0.195	0.460	3	S	C
1	60	0.195	0.460	3	S	C
1	70	0.195	0.460	3	S	C
1	80	0.195	0.460	3	S	C
2	20	0.195	0.460	3	S	C
2	30	0.195	0.460	3	S	C
2	40	0.195	0.460	3	S	C
3	50	0.195	0.460	3	D	C
3	60	0.195	0.460	3	D	C
3	70	0.195	0.460	3	D	C
3	80	0.195	0.460	3	D	C
4	20	0.195	0.460	3	D	C
4	30	0.195	0.460	3	D	C
4	40	0.195	0.460	3	D	C
5	50	0.361	0.440	4	S	I
5	60	0.361	0.440	4	S	I
5	70	0.361	0.440	4	S	I
5	80	0.361	0.440	4	S	I
6	20	0.361	0.440	4	S	I
6	30	0.361	0.440	4	S	I
6	40	0.361	0.440	4	S	I

```
 7               50              0.240           0.710   4       D
C
 7               60              0.240           0.710   4       D
C
 7               70              0.240           0.710   4       D
C
 7               80              0.240           0.710   4       D
C
 8               20              0.240           0.710   4       D
C
 8               30              0.240           0.710   4       D
C
 8               40              0.240           0.710   4       D
C
 9               50              0.361           0.440   5       S
I
 9               60              0.361           0.440   5       S
I
 9               70              0.361           0.440   5       S
I
 9               80              0.361           0.440   5       S
I
 10              20              0.361           0.440   5       S
I
 10              30              0.361           0.440   5       S
I
 10              40              0.361           0.440   5       S
I
 11              50              0.361           0.440   5       D
I
 11              60              0.361           0.440   5       D
I
 11              70              0.361           0.440   5       D
I
 11              80              0.361           0.440   5       D
I
 12              20              0.361           0.440   5       D
I
 12              30              0.361           0.440   5       D
I
 12              40              0.361           0.440   5       D
I
 13              50              0.195           0.460   3       S
C
 13              60              0.195           0.460   3       S
C
 13              70              0.195           0.460   3       S
C
 13              80              0.195           0.460   3       S
C
 14              20              0.195           0.460   3       S
C
 14              30              0.195           0.460   3       S
C
```

14	40	0.195	0.460	3	S
C					
15	50	0.195	0.460	3	D
C					
15	60	0.195	0.460	3	D
C					
15	70	0.195	0.460	3	D
C					
15	80	0.195	0.460	3	D
C					
16	20	0.195	0.460	3	D
C					
16	30	0.195	0.460	3	D
C					
16	40	0.195	0.460	3	D
C					
17	50	0.361	0.440	4	S
I					
17	60	0.361	0.440	4	S
I					
17	70	0.361	0.440	4	S
I					
17	80	0.361	0.440	4	S
I					
18	20	0.361	0.440	4	S
I					
18	30	0.361	0.440	4	S
I					
18	40	0.361	0.440	4	S
I					
19	50	0.240	0.710	4	D
C					
19	60	0.240	0.710	4	D
C					
19	70	0.240	0.710	4	D
C					
19	80	0.240	0.710	4	D
C					
20	20	0.240	0.710	4	D
C					
20	30	0.240	0.710	4	D
C					
20	40	0.240	0.710	4	D
C					
21	50	0.361	0.440	5	S
I					
21	60	0.361	0.440	5	S
I					
21	70	0.361	0.440	5	S
I					
21	80	0.361	0.440	5	S
I					
22	20	0.361	0.440	5	S
I					

```
 22              30              0.361           0.440   5       S
I
 22              40              0.361           0.440   5       S
I
 23              50              0.361           0.440   5       D
I
 23              60              0.361           0.440   5       D
I
 23              70              0.361           0.440   5       D
I
 23              80              0.361           0.440   5       D
I
 24              20              0.361           0.440   5       D
I
 24              30              0.361           0.440   5       D
I
 24              40              0.361           0.440   5       D
I
 25              50              0.195           0.460   3       S
C
 25              60              0.195           0.460   3       S
C
 25              70              0.195           0.460   3       S
C
 25              80              0.195           0.460   3       S
C
 26              20              0.195           0.460   3       S
C
 26              30              0.195           0.460   3       S
C
 26              40              0.195           0.460   3       S
C
 27              50              0.195           0.460   3       D
C
 27              60              0.195           0.460   3       D
C
 27              70              0.195           0.460   3       D
C
 27              80              0.195           0.460   3       D
C
 28              20              0.195           0.460   3       D
C
 28              30              0.195           0.460   3       D
C
 28              40              0.195           0.460   3       D
C
 29              50              0.361           0.440   4       S
I
 29              60              0.361           0.440   4       S
I
 29              70              0.361           0.440   4       S
I
 29              80              0.361           0.440   4       S
I
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 30              20              0.361           0.440   4       S
I
 30              30              0.361           0.440   4       S
I
 30              40              0.361           0.440   4       S
I
 31              50              0.240           0.710   4       D
C
 31              60              0.240           0.710   4       D
C
 31              70              0.240           0.710   4       D
C
 31              80              0.240           0.710   4       D
C
 32              20              0.240           0.710   4       D
C
 32              30              0.240           0.710   4       D
C
 32              40              0.240           0.710   4       D
C
 33              50              0.361           0.440   5       S
I
 33              60              0.361           0.440   5       S
I
 33              70              0.361           0.440   5       S
I
 33              80              0.361           0.440   5       S
I
 34              20              0.361           0.440   5       S
I
 34              30              0.361           0.440   5       S
I
 34              40              0.361           0.440   5       S
I
 35              50              0.361           0.440   5       D
I
 35              60              0.361           0.440   5       D
I
 35              70              0.361           0.440   5       D
I
 35              80              0.361           0.440   5       D
I
 36              20              0.361           0.440   5       D
I
 36              30              0.361           0.440   5       D
I
 36              40              0.361           0.440   5       D
I
 37              50              0.223           0.610   3       S
I
 37              60              0.223           0.610   3       S
I
 37              70              0.223           0.610   3       S
I
```

```
 37              80              0.223           0.610   3       S
I
 38              20              0.223           0.610   3       S
I
 38              30              0.223           0.610   3       S
I
 38              40              0.223           0.610   3       S
I
 39              50              0.494           0.420   3       D
C
 39              60              0.494           0.420   3       D
C
 39              70              0.494           0.420   3       D
C
 39              80              0.494           0.420   3       D
C
 40              20              0.291           0.510   3       D
C
 40              30              0.291           0.510   3       D
C
 40              40              0.291           0.510   3       D
C
 41              50              1.378           0.200   4       S
C
 41              60              1.378           0.200   4       S
C
 41              70              1.378           0.200   4       S
C
 41              80              1.378           0.200   4       S
C
 42              20              1.378           0.200   4       S
C
 42              30              1.378           0.200   4       S
C
 42              40              1.378           0.200   4       S
C
 43              50              0.494           0.420   4       D
C
 43              60              0.494           0.420   4       D
C
 43              70              0.494           0.420   4       D
C
 43              80              0.494           0.420   4       D
C
 44              20              0.291           0.510   4       D
C
 44              30              0.291           0.510   4       D
C
 44              40              0.291           0.510   4       D
C
 45              50              0.254           0.620   5       S
I
 45              60              0.254           0.620   5       S
I
```

```
 45              70              0.254           0.620   5       S
I
 45              80              0.254           0.620   5       S
I
 46              20              0.254           0.620   5       S
I
 46              30              0.254           0.620   5       S
I
 46              40              0.254           0.620   5       S
I
 47              50              0.238           0.850   5       D
I
 47              60              0.238           0.850   5       D
I
 47              70              0.238           0.850   5       D
I
 47              80              0.238           0.850   5       D
I
 48              20              0.160           0.970   5       D
I
 48              30              0.160           0.970   5       D
I
 48              40              0.160           0.970   5       D
I
 49              50              0.033           0.760   3       S
C
 49              60              0.033           0.760   3       S
C
 49              70              0.033           0.760   3       S
C
 49              80              0.033           0.760   3       S
C
 50              20              0.033           0.760   3       S
C
 50              30              0.033           0.760   3       S
C
 50              40              0.033           0.760   3       S
C
 51              50              0.033           0.760   3       D
C
 51              60              0.033           0.760   3       D
C
 51              70              0.033           0.760   3       D
C
 51              80              0.033           0.760   3       D
C
 52              20              0.033           0.760   3       D
C
 52              30              0.033           0.760   3       D
C
 52              40              0.033           0.760   3       D
C
 53              50              0.024           0.890   4       S
C
```

53	60	0.024	0.890	4	S
C					
53	70	0.024	0.890	4	S
C					
53	80	0.024	0.890	4	S
C					
54	20	0.048	0.740	4	S
C					
54	30	0.048	0.740	4	S
C					
54	40	0.048	0.740	4	S
C					
55	50	0.063	0.690	4	D
C					
55	60	0.063	0.690	4	D
C					
55	70	0.063	0.690	4	D
C					
55	80	0.063	0.690	4	D
C					
56	20	0.022	0.850	4	D
C					
56	30	0.022	0.850	4	D
C					
56	40	0.022	0.850	4	D
C					
57	50	0.007	1.770	5	S
I					
57	60	0.007	1.770	5	S
I					
57	70	0.007	1.770	5	S
I					
57	80	0.007	1.770	5	S
I					
58	20	0.014	1.530	5	S
I					
58	30	0.014	1.530	5	S
I					
58	40	0.014	1.530	5	S
I					
59	50	0.019	1.420	5	D
I					
59	60	0.019	1.420	5	D
I					
59	70	0.019	1.420	5	D
I					
59	80	0.019	1.420	5	D
I					
60	20	0.006	1.730	5	D
I					
60	30	0.006	1.730	5	D
I					
60	40	0.006	1.730	5	D
I					

```
 61              50              0.033           0.760   3       S
C
 61              60              0.033           0.760   3       S
C
 61              70              0.033           0.760   3       S
C
 61              80              0.033           0.760   3       S
C
 62              20              0.033           0.760   3       S
C
 62              30              0.033           0.760   3       S
C
 62              40              0.033           0.760   3       S
C
 63              50              0.033           0.760   3       D
C
 63              60              0.033           0.760   3       D
C
 63              70              0.033           0.760   3       D
C
 63              80              0.033           0.760   3       D
C
 64              20              0.033           0.760   3       D
C
 64              30              0.033           0.760   3       D
C
 64              40              0.033           0.760   3       D
C
 65              50              0.101           0.660   4       S
C
 65              60              0.101           0.660   4       S
C
 65              70              0.101           0.660   4       S
C
 65              80              0.101           0.660   4       S
C
 66              20              0.263           0.540   4       S
C
 66              30              0.263           0.540   4       S
C
 66              40              0.263           0.540   4       S
C
 67              50              0.101           0.660   4       D
C
 67              60              0.101           0.660   4       D
C
 67              70              0.101           0.660   4       D
C
 67              80              0.101           0.660   4       D
C
 68              20              0.263           0.540   4       D
C
 68              30              0.263           0.540   4       D
C
```

```
 68              40              0.263           0.540   4       D
C
 69              50              0.044           1.280   5       S
I
 69              60              0.044           1.280   5       S
I
 69              70              0.044           1.280   5       S
I
 69              80              0.044           1.280   5       S
I
 70              20              0.095           1.140   5       S
I
 70              30              0.095           1.140   5       S
I
 70              40              0.095           1.140   5       S
I
 71              50              0.044           1.280   5       D
I
 71              60              0.044           1.280   5       D
I
 71              70              0.044           1.280   5       D
I
 71              80              0.044           1.280   5       D
I
 72              20              0.095           1.140   5       D
I
 72              30              0.095           1.140   5       D
I
 72              40              0.095           1.140   5       D
I
 73              50              0.012           1.040   3       S
C
 73              60              0.012           1.040   3       S
C
 73              70              0.012           1.040   3       S
C
 73              80              0.012           1.040   3       S
C
 74              20              0.012           1.040   3       S
C
 74              30              0.012           1.040   3       S
C
 74              40              0.012           1.040   3       S
C
 75              50              0.012           1.040   3       D
C
 75              60              0.012           1.040   3       D
C
 75              70              0.012           1.040   3       D
C
 75              80              0.012           1.040   3       D
C
 76              20              0.012           1.040   3       D
C
```

76	30	0.012	1.040	3	D
C					
76	40	0.012	1.040	3	D
C					
77	50	0.070	0.640	4	S
C					
77	60	0.070	0.640	4	S
C					
77	70	0.070	0.640	4	S
C					
77	80	0.070	0.640	4	S
C					
78	20	0.070	0.640	4	S
C					
78	30	0.070	0.640	4	S
C					
78	40	0.070	0.640	4	S
C					
79	50	0.070	0.640	4	D
C					
79	60	0.070	0.640	4	D
C					
79	70	0.070	0.640	4	D
C					
79	80	0.070	0.640	4	D
C					
80	20	0.070	0.640	4	D
C					
80	30	0.070	0.640	4	D
C					
80	40	0.070	0.640	4	D
C					
81	50	0.013	1.470	5	S
I					
81	60	0.013	1.470	5	S
I					
81	70	0.013	1.470	5	S
I					
81	80	0.013	1.470	5	S
I					
82	20	0.013	1.470	5	S
I					
82	30	0.013	1.470	5	S
I					
82	40	0.013	1.470	5	S
I					
83	50	0.013	1.470	5	D
I					
83	60	0.013	1.470	5	D
I					
83	70	0.013	1.470	5	D
I					
83	80	0.013	1.470	5	D
I					

```
 84              20              0.013           1.470   5       D
I
 84              30              0.013           1.470   5       D
I
 84              40              0.013           1.470   5       D
I
 85              50              0.033           0.760   3       S
C
 85              60              0.033           0.760   3       S
C
 85              70              0.033           0.760   3       S
C
 85              80              0.033           0.760   3       S
C
 86              20              0.033           0.760   3       S
C
 86              30              0.033           0.760   3       S
C
 86              40              0.033           0.760   3       S
C
 87              50              0.033           0.760   3       D
C
 87              60              0.033           0.760   3       D
C
 87              70              0.033           0.760   3       D
C
 87              80              0.033           0.760   3       D
C
 88              20              0.033           0.760   3       D
C
 88              30              0.033           0.760   3       D
C
 88              40              0.033           0.760   3       D
C
 89              50              0.024           0.890   4       S
C
 89              60              0.024           0.890   4       S
C
 89              70              0.024           0.890   4       S
C
 89              80              0.024           0.890   4       S
C
 90              20              0.048           0.740   4       S
C
 90              30              0.048           0.740   4       S
C
 90              40              0.048           0.740   4       S
C
 91              50              0.063           0.690   4       D
C
 91              60              0.063           0.690   4       D
C
 91              70              0.063           0.690   4       D
C
```

91	80	0.063	0.690	4	D C
92	20	0.022	0.850	4	D C
92	30	0.022	0.850	4	D C
92	40	0.022	0.850	4	D C
93	50	0.007	1.770	5	S I
93	60	0.007	1.770	5	S I
93	70	0.007	1.770	5	S I
93	80	0.007	1.770	5	S I
94	20	0.014	1.530	5	S I
94	30	0.014	1.530	5	S I
94	40	0.014	1.530	5	S I
95	50	0.019	1.420	5	D I
95	60	0.019	1.420	5	D I
95	70	0.019	1.420	5	D I
95	80	0.019	1.420	5	D I
96	20	0.006	1.730	5	D I
96	30	0.006	1.730	5	D I
96	40	0.006	1.730	5	D I

Junction Only Accident Change Factors
Base Year
2000

Classification	Speed Limit (mph)	Beta Factor
Major	20	0.991
Major	30	0.991
Major	40	0.991
Major	50	0.984
Major	60	0.984
Major	70	0.984
Major	80	0.984
Minor	20	0.976
Minor	30	0.976
Minor	40	0.976
Minor	50	0.996
Minor	60	0.996

Minor	70	0.996
Minor	80	0.996

Junction Only Accident Beta Factor Changes over Time

Range of Years	Change to Beta Factor
1995-2010	1.000
2011-2020	0.500
2021-2030	0.250
2031-2144	0.000

Junction Only Casualty Rates

Base Year
2000

Road Type	Casualties per P.I.A.		
	Fatal	Serious	Slight
1	0.0265	0.2413	1.355
2	0.0075	0.1350	1.144
3	0.0265	0.2413	1.355
4	0.0075	0.1350	1.144
5	0.0295	0.2793	1.459
6	0.0062	0.1292	1.244
7	0.0295	0.2793	1.459
8	0.0062	0.1292	1.244
9	0.0295	0.2793	1.459
10	0.0062	0.1292	1.244
11	0.0295	0.2793	1.459
12	0.0062	0.1292	1.244
13	0.0265	0.2413	1.355
14	0.0075	0.1350	1.144
15	0.0265	0.2413	1.355
16	0.0075	0.1350	1.144
17	0.0295	0.2793	1.459
18	0.0062	0.1292	1.244
19	0.0295	0.2793	1.459
20	0.0062	0.1292	1.244
21	0.0295	0.2793	1.459
22	0.0062	0.1292	1.244
23	0.0295	0.2793	1.459
24	0.0062	0.1292	1.244
25	0.0265	0.2413	1.355
26	0.0075	0.1350	1.144
27	0.0265	0.2413	1.355
28	0.0075	0.1350	1.144
29	0.0295	0.2793	1.459
30	0.0062	0.1292	1.244
31	0.0295	0.2793	1.459
32	0.0062	0.1292	1.244
33	0.0295	0.2793	1.459
34	0.0062	0.1292	1.244
35	0.0295	0.2793	1.459
36	0.0062	0.1292	1.244
37	0.0092	0.1631	1.444
38	0.0064	0.1157	1.214
39	0.0092	0.1631	1.444

40	0.0064	0.1157	1.214
41	0.0095	0.1423	1.467
42	0.0061	0.1177	1.253
43	0.0095	0.1423	1.467
44	0.0061	0.1177	1.253
45	0.0095	0.1423	1.467
46	0.0061	0.1177	1.253
47	0.0095	0.1423	1.467
48	0.0061	0.1177	1.253
49	0.0060	0.1019	1.214
50	0.0027	0.0806	1.163
51	0.0060	0.1019	1.214
52	0.0027	0.0806	1.163
53	0.0060	0.1019	1.214
54	0.0027	0.0806	1.163
55	0.0060	0.1019	1.214
56	0.0027	0.0806	1.163
57	0.0060	0.1019	1.214
58	0.0027	0.0806	1.163
59	0.0060	0.1019	1.214
60	0.0027	0.0806	1.163
61	0.0060	0.1019	1.214
62	0.0027	0.0806	1.163
63	0.0060	0.1019	1.214
64	0.0027	0.0806	1.163
65	0.0060	0.1019	1.214
66	0.0027	0.0806	1.163
67	0.0060	0.1019	1.214
68	0.0027	0.0806	1.163
69	0.0060	0.1019	1.214
70	0.0027	0.0806	1.163
71	0.0060	0.1019	1.214
72	0.0027	0.0806	1.163
73	0.0060	0.1019	1.214
74	0.0028	0.0965	1.182
75	0.0060	0.1019	1.214
76	0.0028	0.0965	1.182
77	0.0060	0.1019	1.214
78	0.0028	0.0965	1.182
79	0.0060	0.1019	1.214
80	0.0028	0.0965	1.182
81	0.0060	0.1019	1.214
82	0.0028	0.0965	1.182
83	0.0060	0.1019	1.214
84	0.0028	0.0965	1.182
85	0.0039	0.0703	1.258
86	0.0031	0.0705	1.221
87	0.0039	0.0703	1.258
88	0.0031	0.0705	1.221
89	0.0039	0.0703	1.258
90	0.0031	0.0705	1.221
91	0.0039	0.0703	1.258
92	0.0031	0.0705	1.221
93	0.0039	0.0703	1.258

94	0.0031	0.0705	1.221
95	0.0039	0.0703	1.258
96	0.0031	0.0705	1.221

Junction Only Casualty Change Factors

Base Year

2000

Classification	Speed Limit (mph)	Beta Factor		
		Fatal	Serious	Slight
Major	20	0.949	0.962	1.010
Major	30	0.949	0.962	1.010
Major	40	0.949	0.962	1.010
Major	50	0.961	0.959	1.011
Major	60	0.961	0.959	1.011
Major	70	0.961	0.959	1.011
Major	80	0.961	0.959	1.011
Minor	20	0.968	0.958	1.006
Minor	30	0.968	0.958	1.006
Minor	40	0.968	0.958	1.006
Minor	50	0.976	0.972	1.011
Minor	60	0.976	0.972	1.011
Minor	70	0.976	0.972	1.011
Minor	80	0.976	0.972	1.011

Junction Only Casualty Beta Factor Changes over Time

Range of Years	Change to Beta Factor
1995-2010	1.000
2011-2144	0.000

```
*****************************************************************************
*                                                                           *
*        CCC      OOO     BBBB      AAA             L         TTTTT        *
*       C   C    O   O    B   B    A   A            L           T          *
*       C        O   O    B   B    A   A            L           T          *
*       C        O   O    BBBB     AAAAA    ----    L           T          *
*       C        O   O    B   B    A   A            L           T          *
*       C   C    O   O    B   B    A   A            L           T          *
*        CCC      OOO     BBBB     A   A            LLLLL       T          *
*                                                                           *
*****************************************************************************
*                                                                           *
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Written by Roger Himlin

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[Section 5] Input Data - Parameter File

Input_File_Arundel_Opt5A_FINAL.cbo

[Section 1] Summary Statistics

[Section 1.1] Economic Summary

Total Without-Scheme Accident Costs = 622,331.3
Total With-Scheme Accident Costs = 543,377.9

Total Accident Benefits Saved by Scheme = 78,953.4

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 1.2] Accident Summary

Total Without-Scheme Accidents = 12,378.7
Total With-Scheme Accidents = 10,729.5

Total Accidents Saved by Scheme = 1,649.2

[Section 1.3] Casualty Summary

Total Without-Scheme Casualties (Fatal) = 135.1
(Serious) = 1,636.6
(Slight) = 15,109.4
Total With-Scheme Casualties (Fatal) = 123.0
(Serious) = 1,423.9
(Slight) = 13,132.6

Total Casualties Saved by Scheme (Fatal) = 12.0
(Serious) = 212.7
(Slight) = 1,976.9

[Section 2] Accident Statistics

[Section 2.1] Link Accident Statistics

----------- Without-Scheme --------- *------------ With-Scheme -----------* *------------- Benefits -------------*
-- Number of Accidents - Total* *-- Number of Accidents -* Total* *-- Number of Accidents -* Total*
Link Name * 2023 2038 Total* Cost* * 2023 2038 Total* Cost* * 2023 2038 Total* Benefit*

Total 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

0.0 0.0 0.0 0.0 0.0 0.0

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 2.2] Junction Accident Statistics

	---------- Without-Scheme ---------				*---------- With-Scheme ----------*				*------------ Benefits ------------*
	-- Number of Accidents -			Total*	*-- Number of Accidents -*			Total*	
Junction Name	*	2023	2038	Total*	Cost*	*	2023	2038	Total*	Cost*	*	2023	2038	Total*	Benefit*
Total		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 2.3] Combined Link and Junction Accident Statistics

	---------- Without-Scheme ---------				*---------- With-Scheme ----------*				*------------ Benefits ------------*
	-- Number of Accidents -			Total*	*-- Number of Accidents -*			Total*	
Link Name	*	2023	2038	Total*	Cost*	*	2023	2038	Total*	Cost*	*	2023	2038	Total*	Benefit*
12021192		0.0	0.4	24.3	1,726.3		0.1	0.5	30.0	2,133.3		0.0	-0.1	-5.7	-407.0
12081202		0.0	0.0	1.9	136.5		0.0	0.0	2.4	168.7		0.0	0.0	-0.5	-32.2
12421208		0.3	3.2	195.5	9,121.9		0.4	3.8	233.1	10,883.8		-0.1	-0.6	-37.6	-1,761.8
95511250		0.0	0.1	3.5	164.0		0.0	0.0	1.5	70.6		0.0	0.0	2.0	93.4
100011276		0.0	0.2	13.8	645.3		0.0	0.2	9.8	457.4		0.0	0.1	4.0	187.8
12941282		0.0	0.4	21.6	1,006.5		0.0	0.3	15.6	726.2		0.0	0.1	6.0	280.3
100081316		0.0	0.1	8.9	491.0		0.0	0.1	6.6	364.0		0.0	0.0	2.3	127.0
95521316		0.1	0.9	54.0	3,839.2		0.1	0.8	49.2	3,496.6		0.0	0.1	4.8	342.6
100321318		0.0	0.2	12.0	559.8		0.0	0.1	7.4	347.0		0.0	0.1	4.5	212.8
101241340		0.0	0.6	34.5	1,606.8		0.0	0.6	38.7	1,804.8		0.0	-0.1	-4.3	-198.0
13061344		0.0	0.1	7.0	325.8		0.0	0.2	11.5	537.7		0.0	-0.1	-4.5	-211.9
13401394		0.1	1.2	72.2	3,361.5		0.1	1.3	81.7	3,802.7		0.0	-0.2	-9.5	-441.3

100241396	0.0	0.2	9.1	425.6	0.0	0.1	6.1	285.0	0.0	0.0	3.0	140.6			
14201412	0.0	0.2	9.3	435.6	0.0	0.1	7.7	360.9	0.0	0.0	1.6	74.7			
76481412	0.0	0.0	1.6	75.2	0.0	0.0	2.9	137.1	0.0	0.0	-1.3	-61.9			
14121416	0.0	0.1	3.9	181.4	0.0	0.1	3.4	161.0	0.0	0.0	0.4	20.4			
14241418	0.0	0.1	4.9	227.4	0.0	0.1	4.1	193.2	0.0	0.0	0.7	34.2			
14221420	0.2	2.2	135.6	6,327.6	0.1	1.8	107.0	4,987.3	0.1	0.5	28.6	1,340.3			
14281422	0.1	1.4	82.6	3,855.1	0.1	1.2	71.0	3,313.0	0.0	0.2	11.6	542.1			
14401424	0.0	0.0	0.3	16.1	0.0	0.0	0.1	5.8	0.0	0.0	0.2	10.3			
15081424	0.0	0.3	16.9	935.2	0.0	0.3	15.4	849.0	0.0	0.0	1.6	86.3			
14181428	0.0	0.1	8.1	375.7	0.0	0.1	7.2	334.1	0.0	0.0	0.9	41.6			
14501440	0.0	0.1	7.3	340.7	0.0	0.1	6.8	316.4	0.0	0.0	0.5	24.3			
17661450	0.1	0.5	28.6	1,333.5	0.0	0.2	10.3	480.3	0.0	0.3	18.3	853.3			
14561454	0.0	0.1	3.7	173.1	0.0	0.1	3.4	157.9	0.0	0.0	0.3	15.3			
14161456	0.2	1.9	116.2	5,424.0	0.2	1.7	102.9	4,804.4	0.0	0.2	13.2	619.6			
15221490	0.0	0.5	30.8	1,437.1	0.0	0.3	19.7	920.9	0.0	0.2	11.1	516.1			
16181490	0.0	0.3	19.9	926.4	0.1	0.8	47.4	2,210.6	-0.1	-0.5	-27.5	-1,284.2			
15161498	0.2	1.9	115.8	5,407.7	0.2	1.6	96.0	4,481.8	0.0	0.3	19.8	925.9			
101261502	0.1	1.3	81.7	3,809.2	0.1	1.5	90.5	4,218.0	0.0	-0.1	-8.8	-408.8			
14921504	0.0	0.1	8.8	412.1	0.0	0.2	9.4	438.5	0.0	0.0	-0.6	-26.4			
76321506	0.0	0.3	16.5	769.4	0.0	0.3	19.3	900.8	0.0	0.0	-2.8	-131.4			
76401508	0.0	0.2	14.9	694.0	0.0	0.1	8.0	373.0	0.0	0.1	6.9	320.9			
16041522	0.1	0.8	46.3	2,159.0	0.1	0.5	29.6	1,383.6	0.0	0.3	16.7	775.4			
15461548	0.0	0.1	4.5	212.1	0.0	0.1	4.9	230.6	0.0	0.0	-0.4	-18.6			
60151556	0.1	0.5	32.9	1,536.9	0.1	0.7	44.7	2,089.6	0.0	-0.2	-11.8	-552.7			
15481562	0.0	0.0	1.0	46.2	0.0	0.0	1.4	63.6	0.0	0.0	-0.4	-17.5			
15621568	0.0	0.1	8.5	397.2	0.0	0.2	9.3	432.2	0.0	0.0	-0.8	-35.0			
15581580	0.1	0.8	46.0	2,143.3	0.1	0.9	52.9	2,463.6	0.0	-0.1	-6.9	-320.3			

74781604	0.0	0.5	29.4	1,372.0	0.0	0.3	18.8	879.3	0.0	0.2	10.6	492.8			
60141618	0.0	0.1	7.9	366.7	0.0	0.2	14.8	689.6	0.0	-0.1	-6.9	-322.9			
14901618	0.1	1.2	71.6	3,339.2	0.1	1.0	61.7	2,878.1	0.0	0.2	9.9	461.1			
18541622	0.0	0.1	3.7	173.3	0.0	0.4	23.5	1,092.2	0.0	-0.3	-19.7	-918.8			
79081696	0.0	0.5	31.9	1,488.6	0.0	1.0	59.6	2,773.8	0.0	-0.5	-27.7	-1,285.3			
18661696	0.1	0.3	20.4	952.5	0.1	0.5	29.3	1,373.3	0.0	-0.1	-9.0	-420.8			
17681706	0.0	0.4	25.2	1,177.8	0.0	0.3	19.8	923.7	0.0	0.1	5.4	254.0			
20881710	0.0	0.4	23.9	1,113.6	0.1	0.7	44.8	2,094.5	-0.1	-0.3	-20.9	-980.8			
60141710	0.0	0.1	4.3	199.4	0.0	0.0	1.0	46.7	0.0	0.1	3.3	152.7			
15681744	0.0	0.2	9.4	668.5	0.0	0.2	13.8	981.0	0.0	-0.1	-4.4	-312.6			
17801758	0.0	0.1	7.5	348.5	0.0	0.1	9.0	421.4	0.0	0.0	-1.6	-72.8			
18041764	0.0	0.3	19.4	905.0	0.0	0.2	15.0	698.6	0.0	0.1	4.4	206.4			
17581764	0.0	0.2	12.5	581.2	0.0	0.3	15.9	739.4	0.0	-0.1	-3.4	-158.1			
60521766	0.0	0.0	1.1	74.7	0.0	0.0	0.4	26.9	0.0	0.0	0.7	47.8			
17941768	0.1	0.6	33.4	1,561.8	0.0	0.4	26.0	1,214.2	0.0	0.1	7.4	347.6			
60521794	0.0	0.1	3.2	151.5	0.0	0.0	2.5	116.7	0.0	0.0	0.7	34.8			
18161804	0.0	0.1	7.2	335.1	0.0	0.1	6.1	283.8	0.0	0.0	1.1	51.3			
18341816	0.0	0.0	2.9	136.0	0.0	0.0	2.5	115.2	0.0	0.0	0.4	20.8			
18341828	0.0	0.0	1.8	84.8	0.0	0.0	2.1	97.8	0.0	0.0	-0.3	-13.0			
19881844	0.1	0.8	47.8	2,232.3	0.1	0.7	41.1	1,920.0	0.0	0.1	6.7	312.3			
76441848	0.0	0.3	17.6	1,251.7	0.0	0.2	11.8	837.8	0.0	0.1	5.8	413.9			
79361854	0.0	0.1	6.4	454.9	0.0	0.2	12.7	903.8	0.0	-0.1	-6.3	-448.9			
79061866	0.0	0.2	14.7	686.6	0.1	0.3	21.1	989.9	0.0	-0.1	-6.5	-303.3			
16961866	0.0	0.3	18.4	856.0	0.0	0.6	35.3	1,643.0	0.0	-0.3	-16.9	-787.1			
18781874	0.0	0.0	1.8	84.1	0.0	0.0	2.2	104.2	0.0	0.0	-0.4	-20.0			
76181874	0.0	0.2	11.0	513.3	0.0	0.3	16.1	750.3	0.0	-0.1	-5.0	-237.0			
101691878	0.0	0.1	5.3	247.0	0.0	0.2	10.6	494.3	0.0	-0.1	-5.3	-247.3			

19601956	0.0	0.1	8.0	374.3	0.0	0.1	8.9	417.2	0.0	0.0	-0.9	-42.9
95251960	0.1	1.1	67.5	3,147.9	0.2	1.5	88.6	4,134.3	0.0	-0.3	-21.1	-986.3
19561962	0.0	0.1	4.5	208.9	0.0	0.1	5.5	256.3	0.0	0.0	-1.0	-47.4
19741970	0.0	0.1	4.4	203.9	0.0	0.1	4.7	219.0	0.0	0.0	-0.3	-15.1
19621974	0.0	0.0	1.7	78.5	0.0	0.0	1.4	64.1	0.0	0.0	0.3	14.4
90161994	0.0	0.1	7.2	399.1	0.0	0.1	8.8	487.4	0.0	0.0	-1.6	-88.3
19621994	0.1	0.7	44.7	2,084.1	0.1	1.2	75.3	3,514.9	-0.1	-0.5	-30.5	-1,430.7
19841996	0.1	1.3	77.3	3,606.3	0.1	1.4	82.3	3,838.5	0.0	-0.1	-5.0	-232.2
20842002	0.2	2.3	141.2	6,587.2	0.2	2.5	153.0	7,139.4	0.0	-0.2	-11.8	-552.2
20722012	0.0	0.3	17.2	951.2	0.0	0.5	29.0	1,604.5	0.0	-0.2	-11.8	-653.3
95192016	0.1	1.2	73.0	3,406.8	0.1	1.3	78.2	3,650.3	0.0	-0.1	-5.2	-243.5
75962018	0.1	0.7	40.4	1,884.6	0.1	0.7	43.2	2,015.5	0.0	0.0	-2.8	-130.9
20482030	0.0	0.1	5.0	234.9	0.0	0.1	5.4	253.0	0.0	0.0	-0.4	-18.0
19742030	0.0	0.2	10.4	484.8	0.0	0.1	7.5	349.7	0.0	0.0	2.9	135.1
20302034	0.0	0.0	2.3	106.6	0.0	0.0	1.6	76.8	0.0	0.0	0.6	29.7
20122034	0.0	0.2	10.6	753.2	0.0	0.4	21.3	1,516.4	0.0	-0.2	-10.7	-763.2
100582038	0.1	0.9	55.3	2,582.1	0.1	1.1	65.0	3,032.4	0.0	-0.2	-9.6	-450.3
20442038	0.1	1.0	62.7	2,927.6	0.1	1.1	68.2	3,187.0	0.0	-0.1	-5.6	-259.3
20382044	0.1	1.0	63.3	2,954.1	0.1	1.2	70.1	3,271.6	0.0	-0.1	-6.8	-317.5
20342046	0.0	0.0	2.4	112.0	0.0	0.1	3.3	152.7	0.0	0.0	-0.9	-40.6
76382058	0.0	0.5	29.1	2,065.1	0.1	0.5	33.2	2,363.6	0.0	-0.1	-4.2	-298.5
20462058	0.0	0.1	4.4	203.0	0.0	0.1	5.9	276.1	0.0	0.0	-1.6	-73.1
20962066	0.1	0.6	33.7	1,862.8	0.1	0.6	38.3	2,116.1	0.0	-0.1	-4.6	-253.3
19942070	0.1	0.7	42.0	2,319.7	0.1	1.0	58.9	3,260.5	0.0	-0.3	-17.0	-940.8
21102072	0.1	1.0	59.2	3,273.2	0.1	1.7	100.1	5,532.7	-0.1	-0.7	-40.9	-2,259.5
90152076	0.0	0.1	6.6	367.3	0.0	0.2	9.9	546.9	0.0	-0.1	-3.3	-179.6
73722084	0.2	2.1	129.3	6,035.3	0.2	2.3	140.2	6,541.2	0.0	-0.2	-10.8	-506.0

76362086		0.1	0.7	40.1	1,868.9	0.1	0.9	53.1	2,476.5	0.0	-0.2	-13.0	-607.6
95092086		0.0	0.1	5.3	245.6	0.0	0.1	5.7	266.8	0.0	0.0	-0.5	-21.2
21742088		0.0	0.2	9.7	450.5	0.0	0.7	39.4	1,836.9	0.0	-0.5	-29.7	-1,386.4
95022088		0.0	0.1	6.8	317.8	0.1	0.7	40.0	1,871.6	-0.1	-0.5	-33.2	-1,553.8
17102088		0.0	0.4	25.8	1,200.0	0.0	0.1	6.0	281.1	0.0	0.3	19.8	918.9
100562096		0.1	0.6	34.1	1,593.2	0.1	0.6	38.7	1,809.8	0.0	-0.1	-4.6	-216.6
20762096		0.0	0.5	30.3	1,673.1	0.1	0.7	40.6	2,245.0	0.0	-0.2	-10.3	-571.9
21702102		0.0	0.2	11.8	550.7	0.0	0.3	17.0	794.0	0.0	-0.1	-5.2	-243.3
79062102		0.0	0.2	13.2	617.0	0.0	0.4	25.4	1,184.3	0.0	-0.2	-12.2	-567.3
95032106		0.1	0.8	45.6	2,518.7	0.1	1.1	68.5	3,791.2	-0.1	-0.4	-22.9	-1,272.4
21062108		0.0	0.1	8.2	382.0	0.0	0.0	2.8	131.8	0.0	0.1	5.4	250.1
21302110		0.1	0.6	33.5	1,850.1	0.1	1.0	62.5	3,455.5	0.0	-0.5	-29.1	-1,605.5
95052110		0.0	0.8	50.5	2,344.4	0.0	0.0	0.8	34.5	0.0	0.8	49.7	2,309.9
21082112		0.0	0.1	3.5	163.9	0.0	0.0	1.2	57.4	0.0	0.0	2.3	106.5
21482130		0.0	0.2	12.9	600.9	0.0	0.1	6.9	320.4	0.0	0.1	6.0	280.4
21402148		0.0	0.0	0.4	16.3	0.0	0.0	0.7	34.0	0.0	0.0	-0.4	-17.7
74762170		0.0	0.2	11.3	526.9	0.0	0.2	15.0	698.9	0.0	-0.1	-3.7	-172.0
21022170		0.0	0.2	10.6	494.9	0.0	0.3	20.4	949.9	0.0	-0.2	-9.8	-455.0
20882174		0.0	0.0	0.0	1.2	0.1	0.4	23.8	1,111.9	0.0	-0.4	-23.8	-1,110.7
74762174		0.0	0.2	13.7	636.8	0.0	0.3	19.0	886.0	0.0	-0.1	-5.4	-249.1
73712182		0.0	0.2	10.4	485.9	0.0	0.2	11.3	527.2	0.0	0.0	-0.9	-41.3
22242198		0.1	1.1	64.5	3,012.1	0.1	0.7	40.8	1,905.5	0.0	0.4	23.7	1,106.6
21742216		0.0	0.0	1.9	136.9	0.0	0.0	1.3	90.3	0.0	0.0	0.7	46.6
22482218		0.0	0.0	2.4	132.1	0.0	0.0	2.7	150.3	0.0	0.0	-0.3	-18.2
74742220		0.0	0.3	19.2	899.5	0.1	0.4	26.2	1,223.1	0.0	-0.1	-6.9	-323.6
22702224		0.2	1.7	100.7	4,699.3	0.1	1.0	58.9	2,750.9	0.0	0.7	41.8	1,948.4
21982224		0.1	0.9	55.4	2,584.6	0.0	0.3	19.0	886.5	0.1	0.6	36.4	1,698.1

22462244	0.0	0.1	3.8	179.4	0.0	0.1	3.2	149.0	0.0	0.0	0.7	30.4
90092246	0.0	0.4	21.9	1,021.7	0.0	0.3	15.6	729.2	0.0	0.1	6.3	292.4
22442252	0.0	0.1	4.4	207.1	0.0	0.1	3.5	164.7	0.0	0.0	0.9	42.4
22522260	0.0	0.1	4.2	198.0	0.0	0.1	3.5	164.2	0.0	0.0	0.7	33.8
22742268	0.0	0.1	4.1	190.4	0.0	0.1	3.5	162.2	0.0	0.0	0.6	28.2
95272270	0.1	1.0	62.8	2,931.9	0.1	0.8	47.5	2,216.7	0.0	0.3	15.3	715.1
75742270	0.0	0.5	27.8	1,298.5	0.0	0.1	9.0	418.6	0.0	0.3	18.9	879.8
22242270	0.1	1.4	82.6	3,856.2	0.1	0.5	27.3	1,276.5	0.1	0.9	55.3	2,579.7
22802272	0.0	0.3	15.8	734.2	0.0	0.2	13.2	617.4	0.0	0.0	2.5	116.8
22722274	0.0	0.1	4.6	216.7	0.0	0.1	3.9	183.5	0.0	0.0	0.7	33.2
76782280	0.1	1.2	75.4	5,349.2	0.1	1.0	63.3	4,497.2	0.0	0.2	12.0	852.0
22602280	0.0	0.3	19.0	885.0	0.0	0.3	15.6	728.7	0.0	0.1	3.3	156.3
22162306	0.0	0.1	7.3	517.0	0.0	0.1	4.8	340.9	0.0	0.0	2.5	176.1
23742310	0.0	0.4	23.8	1,316.0	0.1	0.5	30.6	1,693.3	0.0	-0.1	-6.8	-377.3
23902316	0.2	1.6	95.8	4,471.0	0.0	0.1	8.7	408.8	0.1	1.4	87.1	4,062.2
24162316	0.0	0.1	6.4	456.8	0.0	0.3	19.7	1,402.4	0.0	-0.2	-13.3	-945.7
60502316	0.0	0.3	15.2	712.8	0.0	0.0	1.7	77.4	0.0	0.2	13.5	635.4
95272316	0.1	1.0	61.8	2,883.0	0.1	0.4	27.2	1,269.4	0.0	0.6	34.7	1,613.6
23462324	0.0	0.0	30.2	1,326.9	0.0	0.0	20.2	889.4	0.0	0.0	10.0	437.5
23062324	0.0	0.3	19.7	1,090.3	0.1	0.6	34.8	1,922.6	0.0	-0.2	-15.0	-832.3
23582346	0.0	0.1	5.7	267.8	0.0	0.1	5.4	250.3	0.0	0.0	0.4	17.4
23802356	0.0	0.4	25.3	1,395.8	0.0	0.4	22.2	1,227.7	0.0	0.1	3.1	168.1
23562362	0.0	0.1	4.0	187.5	0.0	0.1	3.7	171.2	0.0	0.0	0.4	16.4
23742372	0.0	0.0	2.2	104.5	0.0	0.0	0.1	2.9	0.0	0.0	2.2	101.6
23242372	0.0	0.1	6.8	375.0	0.0	0.2	10.3	571.3	0.0	-0.1	-3.5	-196.2
23822374	0.0	0.1	5.1	238.4	0.0	0.1	3.5	163.8	0.0	0.0	1.6	74.6
23722378	0.0	0.1	4.7	217.2	0.0	0.1	4.0	186.0	0.0	0.0	0.7	31.2

23842382	0.0	0.1	5.2	244.9	0.0	0.1	4.2	198.0	0.0	0.0	1.0	46.8
24082382	0.0	0.4	25.4	1,806.3	0.0	0.0	0.8	59.2	0.0	0.4	24.6	1,747.0
23782384	0.0	0.0	1.3	61.3	0.0	0.0	0.8	39.5	0.0	0.0	0.5	21.8
23622384	0.0	0.2	14.2	782.7	0.0	0.2	13.2	732.3	0.0	0.0	0.9	50.3
23922390	0.2	1.8	109.5	5,111.3	0.0	0.2	10.0	467.3	0.1	1.6	99.5	4,644.0
23162390	0.2	1.7	104.2	4,862.3	0.0	0.2	10.3	482.5	0.2	1.5	93.8	4,379.9
23902392	0.2	2.0	119.0	5,558.5	0.0	0.2	11.8	551.6	0.2	1.8	107.2	5,006.9
25162406	0.1	1.4	83.4	5,918.4	0.2	1.7	101.0	7,182.3	-0.1	-0.3	-17.6	-1,263.9
76382406	0.0	0.2	11.4	808.2	0.0	0.4	21.5	1,530.5	0.0	-0.2	-10.2	-722.3
24202408	0.0	0.2	10.7	763.2	0.0	0.0	0.4	30.2	0.0	0.2	10.3	733.1
23822408	0.0	0.4	26.9	1,912.6	0.0	0.1	8.2	586.2	0.0	0.3	18.7	1,326.4
75722416	0.0	0.3	20.3	1,444.5	0.1	0.6	37.4	2,659.8	0.0	-0.3	-17.1	-1,215.3
60492416	0.0	0.2	11.3	527.2	0.0	0.0	0.6	26.1	0.0	0.2	10.7	501.1
23162416	0.0	0.0	2.8	202.4	0.0	0.2	10.6	754.0	0.0	-0.1	-7.8	-551.6
74842420	0.0	0.0	0.3	14.7	0.0	0.4	21.6	1,002.4	0.0	-0.4	-21.3	-987.7
24362420	0.1	0.8	50.9	2,376.7	0.0	0.1	5.7	264.3	0.1	0.7	45.2	2,112.4
24082420	0.0	0.2	11.4	809.5	0.0	0.1	3.5	252.6	0.0	0.1	7.9	556.9
24782436	0.0	0.2	11.6	644.0	0.0	0.1	6.9	381.5	0.0	0.1	4.7	262.5
24202436	0.1	0.8	48.4	2,256.5	0.0	0.4	25.4	1,181.7	0.0	0.4	23.0	1,074.8
74862478	0.1	1.2	71.6	5,088.7	0.1	0.7	42.5	3,014.5	0.1	0.5	29.1	2,074.2
24362478	0.0	0.2	12.3	677.0	0.0	0.1	5.8	320.8	0.0	0.1	6.5	356.1
24922482	0.0	0.0	1.0	44.9	0.0	0.0	53.5	2,352.8	0.0	0.0	-52.5	-2,307.9
74822492	0.0	0.0	1.7	79.7	0.0	0.5	27.6	1,279.9	0.0	-0.4	-25.9	-1,200.3
25122506	0.0	0.1	4.3	202.2	0.0	0.1	4.8	223.4	0.0	0.0	-0.5	-21.2
25062508	0.0	0.0	1.5	71.3	0.0	0.0	1.9	88.4	0.0	0.0	-0.4	-17.1
25182512	0.0	0.1	4.3	201.4	0.0	0.1	4.8	223.4	0.0	0.0	-0.5	-22.0
25082516	0.0	0.1	4.3	199.0	0.0	0.1	4.6	215.5	0.0	0.0	-0.4	-16.5

24062516	0.1	0.8	50.3	3,565.6	0.2	1.6	98.3	6,986.4	-0.1	-0.8	-48.1	-3,420.8
25262518	0.0	0.1	5.5	302.7	0.0	0.1	6.0	331.6	0.0	0.0	-0.5	-28.8
25162520	0.0	0.1	3.8	179.4	0.0	0.1	5.1	239.5	0.0	0.0	-1.3	-60.1
25482526	0.0	0.2	11.5	638.1	0.0	0.2	12.7	701.8	0.0	0.0	-1.1	-63.6
25202536	0.0	0.1	7.0	387.0	0.0	0.2	9.2	507.8	0.0	0.0	-2.2	-120.8
25762546	0.2	3.2	194.0	9,038.1	0.2	2.8	166.5	7,756.8	0.0	0.5	27.5	1,281.3
76782546	0.1	1.1	68.6	4,874.5	0.1	0.9	56.5	4,013.5	0.0	0.2	12.1	860.9
25842548	0.0	0.3	18.8	1,037.9	0.0	0.3	20.7	1,142.2	0.0	0.0	-1.9	-104.3
25362568	0.0	0.2	14.6	807.1	0.0	0.3	19.2	1,059.1	0.0	-0.1	-4.6	-252.0
90052576	0.2	3.5	211.7	9,859.8	0.2	3.0	180.2	8,399.8	0.0	0.5	31.4	1,460.0
25462576	0.3	3.6	216.0	10,070.4	0.2	3.0	183.4	8,547.9	0.1	0.5	32.5	1,522.4
27082584	0.1	0.9	56.2	3,104.0	0.1	1.0	61.8	3,415.9	0.0	-0.1	-5.6	-311.9
25942592	0.0	0.1	6.8	316.3	0.0	0.1	5.4	250.9	0.0	0.0	1.4	65.3
95392592	0.0	0.0	1.6	91.1	0.0	0.0	0.8	43.1	0.0	0.0	0.9	47.9
75722594	0.0	0.2	14.7	1,042.6	0.0	0.4	22.9	1,625.7	0.0	-0.1	-8.2	-583.1
25982596	0.0	0.1	7.5	348.8	0.0	0.1	5.4	249.7	0.0	0.0	2.1	99.1
75702596	0.0	0.5	27.3	1,942.2	0.0	0.4	21.8	1,549.6	0.0	0.1	5.5	392.6
26422598	0.1	0.6	39.2	2,789.7	0.1	0.8	46.9	3,331.0	0.0	-0.1	-7.6	-541.3
25922598	0.0	0.2	14.6	681.3	0.0	0.2	10.0	466.9	0.0	0.1	4.6	214.4
26162610	0.0	0.4	26.5	1,237.2	0.0	0.3	21.2	987.0	0.0	0.1	5.3	250.2
75702610	0.0	0.4	22.2	1,574.0	0.0	0.2	9.2	649.1	0.0	0.2	13.0	924.8
26342616	0.1	0.6	39.1	2,778.9	0.0	0.5	31.1	2,204.7	0.0	0.1	8.0	574.2
26102616	0.0	0.4	24.5	1,140.4	0.0	0.2	10.1	470.4	0.0	0.2	14.4	670.1
75762634	0.1	1.0	58.4	2,725.4	0.1	0.8	46.4	2,162.4	0.0	0.2	12.0	562.9
26162634	0.1	0.6	38.2	2,710.1	0.0	0.3	16.8	1,192.6	0.0	0.4	21.4	1,517.5
26402638	0.0	0.1	4.4	309.0	0.0	0.1	3.9	277.1	0.0	0.0	0.5	31.9
90052638	0.2	1.9	115.0	5,361.2	0.1	1.5	91.1	4,245.3	0.0	0.4	23.9	1,115.8

27282640		0.3	5.4	327.7	15,255.2	0.3	4.8	290.4	13,522.3	0.0	0.6	37.3	1,732.8		
26382640		0.0	0.1	4.9	347.7	0.0	0.1	3.9	279.2	0.0	0.0	1.0	68.5		
27022642		0.0	0.2	14.8	1,049.7	0.0	0.3	17.6	1,253.4	0.0	0.0	-2.9	-203.7		
25982642		0.1	0.6	33.7	2,391.8	0.1	0.7	40.2	2,855.4	0.0	-0.1	-6.5	-463.6		
26902676		0.1	0.6	38.6	1,802.3	0.0	0.5	30.7	1,430.1	0.0	0.1	7.9	372.3		
75762676		0.1	0.8	51.4	2,396.9	0.0	0.4	22.6	1,054.9	0.0	0.5	28.8	1,342.0		
60362690		0.8	7.1	428.5	20,011.5	0.4	5.6	340.6	15,878.1	0.3	1.5	87.9	4,133.4		
26762690		0.1	0.6	37.7	1,757.7	0.0	0.3	16.6	773.6	0.0	0.3	21.1	984.1		
26422702		0.0	0.2	12.7	900.0	0.0	0.2	15.1	1,074.5	0.0	0.0	-2.5	-174.5		
75882706		0.0	0.7	39.3	1,831.9	0.0	0.5	32.3	1,505.5	0.0	0.1	7.0	326.4		
27142706		0.1	1.1	66.1	3,083.2	0.1	0.9	52.4	2,443.7	0.0	0.2	13.7	639.5		
27102708		0.0	0.1	5.3	249.7	0.0	0.1	4.9	230.0	0.0	0.0	0.4	19.7		
75882710		0.1	1.4	84.7	3,951.4	0.1	1.2	69.7	3,247.0	0.0	0.2	15.0	704.4		
27082712		0.0	0.1	5.1	236.9	0.0	0.1	3.8	175.7	0.0	0.0	1.3	61.2		
25682712		0.1	0.7	45.1	2,492.8	0.1	1.0	59.2	3,271.1	0.0	-0.2	-14.1	-778.3		
27282714		0.2	2.0	119.8	5,587.5	0.1	1.6	95.0	4,427.6	0.1	0.4	24.8	1,160.0		
27062714		0.1	1.0	58.2	2,709.5	0.1	0.9	51.9	2,418.4	0.0	0.1	6.3	291.1		
27222720		0.0	0.1	5.9	274.8	0.0	0.1	5.4	253.4	0.0	0.0	0.5	21.4		
27262722		0.0	0.0	2.8	129.5	0.0	0.0	2.2	104.2	0.0	0.0	0.5	25.3		
27422722		0.0	0.3	15.2	842.5	0.0	0.2	14.2	785.3	0.0	0.0	1.0	57.2		
73462724		0.0	0.0	2.9	136.3	0.0	0.0	1.4	66.2	0.0	0.0	1.5	70.1		
27162724		0.0	0.1	5.3	248.6	0.0	0.1	6.7	313.0	0.0	0.0	-1.4	-64.4		
26402728		0.5	6.2	377.2	17,588.1	0.3	4.8	293.5	13,674.7	0.2	1.4	83.7	3,913.5		
27142728		0.1	1.7	105.5	4,910.4	0.1	1.6	94.1	4,382.8	0.0	0.2	11.4	527.6		
73462740		0.5	4.8	292.3	13,650.5	0.2	3.3	197.0	9,181.6	0.3	1.6	95.3	4,468.9		
27482740		0.1	0.6	35.2	1,644.4	0.0	0.2	13.2	616.1	0.0	0.4	22.0	1,028.3		
28162744		0.0	1.1	64.3	2,987.5	0.0	0.0	28.3	1,245.4	0.0	1.1	36.0	1,742.1		

27542748		0.0		0.3		18.0		840.3		0.0		0.1		6.4		299.6		0.0	
0.2		11.6		540.7															
27402748		0.1		0.8		51.3		2,394.8		0.1		0.7		42.1		1,960.8		0.0	
0.2		9.2		434.1															
75782750		0.0		0.2		11.3		801.5		0.0		0.1		9.0		635.9		0.0	
0.0		2.3		165.6															
60362750		0.0		0.4		27.1		1,921.9		0.0		0.2		11.9		845.8		0.0	
0.3		15.1		1,076.1															
27642754		0.0		0.3		20.6		964.1		0.0		0.1		7.4		343.7		0.0	
0.2		13.3		620.4															
27482754		0.1		0.5		27.6		1,291.1		0.0		0.4		22.7		1,059.9		0.0	
0.1		4.9		231.2															
27662762		0.1		0.8		51.2		2,386.3		0.0		0.4		22.5		1,050.2		0.0	
0.5		28.6		1,336.0															
27642762		0.0		0.1		6.8		315.8		0.0		0.1		4.9		229.7		0.0	
0.0		1.8		86.1															
27702764		0.0		0.1		6.8		315.9		0.0		0.0		1.4		63.8		0.0	
0.1		5.4		252.1															
27542764		0.1		0.5		31.7		1,481.3		0.0		0.4		26.1		1,216.0		0.0	
0.1		5.6		265.3															
27622764		0.0		0.1		6.1		282.3		0.0		0.0		2.7		124.2		0.0	
0.1		3.4		158.1															
27622766		0.1		0.9		56.1		2,619.8		0.1		0.7		41.6		1,941.4		0.1	
0.2		14.4		678.3															
75782766		0.1		0.7		39.5		1,843.0		0.0		0.3		17.4		811.1		0.0	
0.4		22.1		1,031.8															
75802770		0.0		0.2		11.8		548.9		0.0		0.0		1.7		79.8		0.0	
0.2		10.1		469.1															
27642770		0.0		0.2		12.6		585.6		0.0		0.1		7.2		334.8		0.0	
0.1		5.4		250.8															
27402792		0.1		0.5		30.5		1,423.7		0.0		0.1		4.4		203.6		0.1	
0.4		26.1		1,220.1															
75802792		0.0		0.3		20.6		955.9		0.0		0.2		11.8		546.6		0.0	
0.1		8.8		409.3															
27922804		0.0		0.2		9.9		459.4		0.0		0.1		6.6		306.1		0.0	
0.1		3.3		153.4															
28042808		0.0		0.1		8.5		393.8		0.0		0.1		4.6		214.1		0.0	
0.1		3.9		179.7															
28082816		0.0		0.6		34.3		1,591.6		0.0		0.0		15.0		660.9		0.0	
0.6		19.2		930.7															
17106014		0.0		0.1		4.0		185.0		0.0		0.1		7.4		348.0		0.0	
-0.1		-3.5		-163.0															
16186014		0.0		0.1		8.5		395.1		0.0		0.0		2.0		92.6		0.0	
0.1		6.5		302.6															
22206015		0.1		0.5		30.0		2,139.4		0.1		0.7		40.9		2,909.2		0.0	
-0.2		-10.8		-769.7															
16226016		0.0		0.0		0.8		38.8		0.0		0.1		3.1		145.3		0.0	
0.0		-2.3		-106.5															
13446018		0.0		0.0		2.0		94.9		0.0		0.1		4.0		189.4		0.0	
0.0		-2.0		-94.5															
27506036		0.1		0.5		27.7		1,970.9		0.0		0.4		22.0		1,563.6		0.0	
0.1		5.7		407.2															
26906036		0.6		6.9		418.6		19,516.3		0.2		3.0		184.4		8,589.4		0.4	
3.9		234.2		10,926.8															

60506049		0.0		0.0		1.6		75.2		0.0		0.0		0.1		5.4		0.0	
0.0		1.5		69.8															
24166049		0.0		0.3		18.2		846.8		0.0		0.0		0.7		32.9		0.0	
0.3		17.5		813.9															
60516050		0.0		0.0		2.2		101.0		0.0		0.0		0.2		9.5		0.0	
0.0		2.0		91.5															
23166050		0.0		0.3		18.7		872.1		0.0		0.0		1.4		66.7		0.0	
0.3		17.3		805.4															
75746051		0.0		0.3		18.2		850.5		0.0		0.0		1.7		80.1		0.0	
0.3		16.4		770.3															
60496051		0.0		0.1		4.1		189.7		0.0		0.0		0.3		12.3		0.0	
0.1		3.8		177.4															
18486052		0.0		0.1		4.7		336.2		0.0		0.1		3.2		225.0		0.0	
0.0		1.6		111.2															
27407346		0.4		3.6		218.7		10,211.8		0.2		1.8		106.3		4,958.6		0.2	
1.9		112.4		5,253.2															
27167346		0.0		0.1		4.7		221.4		0.0		0.1		3.2		148.9		0.0	
0.0		1.5		72.5															
22187371		0.0		0.2		13.7		754.9		0.0		0.2		14.8		819.1		0.0	
0.0		-1.2		-64.2															
73767372		0.0		0.1		7.6		353.7		0.0		0.1		8.2		383.5		0.0	
0.0		-0.6		-29.8															
73777376		0.0		0.1		4.2		198.3		0.0		0.1		4.6		214.5		0.0	
0.0		-0.3		-16.3															
21827377		0.0		0.1		4.2		194.7		0.0		0.1		4.5		210.6		0.0	
0.0		-0.3		-16.0															
23167474		0.1		0.4		22.7		1,061.2		0.1		0.6		33.6		1,572.2		0.0	
-0.2		-10.9		-511.0															
21747476		0.0		0.2		14.8		689.9		0.0		0.3		19.4		903.9		0.0	
-0.1		-4.6		-214.0															
21707476		0.0		0.2		10.5		491.1		0.0		0.2		14.9		695.3		0.0	
-0.1		-4.4		-204.2															
74797478		0.1		0.8		49.3		2,298.1		0.1		0.5		30.2		1,411.6		0.0	
0.3		19.1		886.5															
23807482		0.0		0.0		1.3		62.8		0.0		0.5		30.0		1,393.7		0.0	
-0.5		-28.7		-1,331.0															
24827484		0.0		0.0		0.4		16.8		0.0		0.0		20.0		879.8		0.0	
0.0		-19.6		-863.0															
95397486		0.1		1.4		87.4		6,210.9		0.1		0.9		52.2		3,706.3		0.1	
0.6		35.2		2,504.6															
24787486		0.1		1.2		75.4		5,349.3		0.0		0.6		35.7		2,535.3		0.0	
0.7		39.7		2,814.1															
26107570		0.0		0.4		24.0		1,707.3		0.0		0.3		19.2		1,362.2		0.0	
0.1		4.8		345.1															
25967570		0.0		0.4		25.2		1,790.4		0.0		0.2		10.4		738.4		0.0	
0.2		14.8		1,052.0															
25947572		0.0		0.5		28.7		2,040.0		0.1		0.8		48.3		3,434.9		0.0	
-0.3		-19.6		-1,394.9															
24167572		0.0		0.2		10.5		745.0		0.0		0.3		20.2		1,435.9		0.0	
-0.2		-9.8		-690.9															
60517574		0.0		0.4		24.5		1,141.2		0.0		0.0		1.6		74.1		0.0	
0.4		22.9		1,067.1															
22707574		0.0		0.2		13.9		652.3		0.0		0.0		1.0		44.9		0.0	
0.2		13.0		607.4															

26347576	0.1	0.9	57.0	2,657.9	0.0	0.4	25.1
1,169.8	0.0	0.5	31.9	1,488.1			
26767576	0.1	0.9	52.6	2,457.7	0.1	0.7	41.8
1,950.1	0.0	0.2	10.8	507.7			
27507578	0.0	0.2	11.0	781.6	0.0	0.1	4.8
344.0	0.0	0.1	6.2	437.6			
27667578	0.1	0.7	40.5	1,889.7	0.0	0.5	32.2
1,499.4	0.0	0.1	8.3	390.3			
27927580	0.0	0.3	15.4	716.3	0.0	0.0	2.2
104.1	0.0	0.2	13.1	612.2			
27707580	0.0	0.3	15.8	732.5	0.0	0.1	9.0
418.8	0.0	0.1	6.8	313.6			
27067588	0.1	1.2	72.8	3,396.2	0.1	1.0	59.9
2,790.8	0.0	0.2	12.9	605.5			
27207588	0.0	0.5	30.4	1,417.7	0.0	0.4	25.0
1,165.1	0.0	0.1	5.4	252.6			
90147596	0.0	0.5	28.4	1,323.8	0.0	0.5	30.3
1,415.7	0.0	0.0	-2.0	-92.0			
20447616	0.1	1.9	114.5	5,337.1	0.1	1.7	101.4
4,726.3	0.0	0.2	13.1	610.8			
65027618	0.0	0.2	10.6	494.5	0.0	0.3	16.6
775.9	0.0	-0.1	-6.0	-281.4			
13807632	0.0	0.3	17.5	817.7	0.0	0.3	20.5
957.4	0.0	0.0	-3.0	-139.7			
20867636	0.1	0.7	43.2	2,016.7	0.1	0.8	48.6
2,267.5	0.0	-0.1	-5.4	-250.7			
100567636	0.0	0.3	20.9	974.5	0.0	0.5	27.7
1,291.3	0.0	-0.1	-6.8	-316.8			
20587638	0.0	0.2	14.9	1,058.7	0.0	0.5	27.3
1,937.4	0.0	-0.2	-12.3	-878.8			
24067638	0.0	0.4	23.1	1,637.4	0.0	0.4	26.6
1,891.2	0.0	-0.1	-3.5	-253.8			
14067640	0.0	0.2	9.6	447.0	0.0	0.1	5.2
240.3	0.0	0.1	4.4	206.7			
19567644	0.0	0.4	21.2	1,510.4	0.0	0.3	15.3
1,090.7	0.0	0.1	5.9	419.7			
60187648	0.0	0.0	1.2	54.4	0.0	0.0	2.3
108.6	0.0	0.0	-1.2	-54.2			
13067656	0.0	0.2	13.8	643.4	0.0	0.1	8.2
380.1	0.0	0.1	5.6	263.3			
60167672	0.0	0.0	1.1	50.4	0.0	0.1	4.1
188.7	0.0	0.0	-3.0	-138.3			
22807678	0.1	1.3	80.8	5,737.5	0.1	1.1	66.5
4,724.1	0.0	0.2	14.2	1,013.4			
25467678	0.1	1.1	64.0	4,544.6	0.1	0.9	53.8
3,820.7	0.0	0.2	10.2	723.8			
21027906	0.0	0.2	14.7	686.6	0.1	0.3	21.1
989.9	0.0	-0.1	-6.5	-303.3			
18667906	0.0	0.2	13.2	617.0	0.0	0.4	25.4
1,184.3	0.0	-0.2	-12.2	-567.3			
16967908	0.1	0.6	33.9	1,584.2	0.1	0.8	47.0
2,199.5	0.0	-0.2	-13.1	-615.3			
79097908	0.0	0.1	5.8	272.1	0.0	0.2	11.6
537.8	0.0	-0.1	-5.7	-265.7			

18547936	0.0	0.1	7.8	557.2	0.0	0.2	10.9	776.0	0.0	-0.1	-3.1	-218.8
15027944	0.1	1.2	73.5	3,423.7	0.1	1.3	81.4	3,795.2	0.0	-0.1	-8.0	-371.5
26389005	0.1	1.6	97.7	4,550.9	0.1	1.3	81.5	3,797.5	0.0	0.3	16.2	753.4
25769005	0.3	4.0	242.4	11,302.1	0.2	3.3	202.4	9,432.0	0.1	0.7	40.0	1,870.1
22489009	0.0	0.3	15.9	739.3	0.0	0.2	11.3	527.7	0.0	0.1	4.5	211.6
20169014	0.0	0.1	5.6	263.2	0.0	0.1	6.1	284.0	0.0	0.0	-0.4	-20.8
20129015	0.0	0.3	17.2	1,219.5	0.0	0.4	25.6	1,815.9	0.0	-0.1	-8.4	-596.4
20669016	0.0	0.1	6.9	379.7	0.0	0.1	8.4	463.7	0.0	0.0	-1.5	-84.0
23929500	0.0	0.3	21.0	1,161.3	0.0	0.0	2.1	115.2	0.0	0.3	18.9	1,046.0
95019500	0.0	0.0	11.8	519.7	0.0	0.6	35.4	1,647.4	0.0	-0.6	-23.5	-1,127.7
95029501	0.0	0.0	11.8	519.7	0.0	0.6	35.4	1,647.4	0.0	-0.6	-23.5	-1,127.7
20889502	0.0	0.3	15.7	730.8	0.0	0.6	34.8	1,619.0	0.0	-0.3	-19.0	-888.2
20709503	0.1	0.6	38.5	2,128.6	0.1	0.9	55.9	3,092.8	0.0	-0.3	-17.4	-964.2
100589509	0.2	1.6	94.1	4,393.8	0.2	1.7	102.9	4,805.2	0.0	-0.1	-8.8	-411.4
20869509	0.0	0.1	4.6	216.3	0.0	0.1	5.7	263.7	0.0	0.0	-1.0	-47.4
19969519	0.0	0.3	21.0	980.4	0.0	0.4	22.4	1,043.8	0.0	0.0	-1.4	-63.4
17449525	0.1	1.1	67.5	3,150.6	0.2	1.5	88.7	4,138.9	0.0	-0.3	-21.1	-988.3
23169527	0.1	1.1	65.2	3,042.3	0.1	0.8	49.4	2,305.6	0.0	0.3	15.8	736.7
22709527	0.1	1.0	61.7	2,874.3	0.1	0.5	27.3	1,274.4	0.0	0.6	34.4	1,599.9
25929539	0.0	0.0	1.6	86.6	0.0	0.0	0.9	51.7	0.0	0.0	0.6	34.9
74869539	0.1	1.5	92.0	6,527.2	0.1	0.7	43.6	3,092.2	0.1	0.8	48.4	3,435.0
95529551	0.1	0.2	14.0	656.1	0.0	0.1	6.0	282.5	0.0	0.1	8.0	373.6
13169552	0.1	0.8	45.7	3,253.8	0.1	0.6	36.1	2,567.2	0.0	0.2	9.6	686.5
12509552	0.2	1.7	102.6	4,787.8	0.2	1.5	93.4	4,360.6	0.0	0.2	9.2	427.2
130010001	0.0	0.1	6.7	313.8	0.0	0.1	4.8	222.4	0.0	0.0	2.0	91.3
149810008	0.0	0.2	10.3	478.7	0.0	0.1	8.5	396.7	0.0	0.0	1.8	82.0
1015410024	0.0	0.0	2.3	107.5	0.0	0.0	1.6	74.9	0.0	0.0	0.7	32.6

765610032	0.0	0.2	10.5	488.0	0.0	0.1	6.1	286.1	0.0	0.1	4.3	201.9
763610056	0.0	0.4	22.5	1,051.5	0.0	0.4	25.3	1,182.2	0.0	0.0	-2.8	-130.7
209610056	0.0	0.5	32.0	1,493.0	0.1	0.7	42.9	2,003.2	0.0	-0.2	-10.9	-510.3
203810058	0.1	0.9	56.4	2,637.4	0.1	1.0	61.6	2,878.2	0.0	-0.1	-5.2	-240.8
950910058	0.1	1.5	89.1	4,157.4	0.2	1.7	105.9	4,943.3	0.0	-0.3	-16.8	-785.9
133210124	0.0	0.5	32.6	1,520.2	0.0	0.6	36.2	1,685.7	0.0	-0.1	-3.6	-165.4
139410126	0.0	0.3	16.9	787.3	0.0	0.3	18.8	876.5	0.0	0.0	-1.9	-89.2
135810154	0.1	0.6	38.6	1,801.3	0.1	0.4	26.4	1,236.7	0.0	0.2	12.1	564.6
190210169	0.0	0.0	2.7	123.8	0.0	0.1	5.9	277.0	0.0	-0.1	-3.3	-153.2
761610173	0.1	0.9	53.9	2,516.3	0.1	0.8	47.6	2,222.1	0.0	0.1	6.3	294.2
21482108	0.0	0.0	0.0	0.0	0.0	0.0	0.4	22.0	0.0	0.0	-0.4	-22.0
21062112	0.0	0.0	0.0	0.0	0.0	0.0	1.2	70.3	0.0	0.0	-1.2	-70.3
21402130	0.0	0.0	0.0	0.0	0.0	0.0	0.8	49.1	0.0	0.0	-0.8	-49.1
103022140	0.0	0.0	0.0	0.0	0.1	0.1	4.4	254.7	-0.1	-0.1	-4.4	-254.7
21082148	0.0	0.0	0.0	0.0	0.0	0.0	0.5	24.3	0.0	0.0	-0.5	-24.3
123112306	0.0	0.0	0.0	0.0	0.0	0.0	0.5	32.3	0.0	0.0	-0.5	-32.3
123069500	0.0	0.0	0.0	0.0	0.0	0.0	0.2	11.8	0.0	0.0	-0.2	-11.8
211210301	0.0	0.0	0.0	0.0	0.1	0.1	6.9	401.7	-0.1	-0.1	-6.9	-401.7
1130210302	0.0	0.0	0.0	0.0	0.0	0.0	2.4	138.9	0.0	0.0	-2.4	-138.9
1030111301	0.0	0.0	0.0	0.0	0.1	0.1	3.7	219.1	-0.1	-0.1	-3.7	-219.1
1230211302	0.0	0.0	0.0	0.0	0.1	0.0	2.9	167.9	-0.1	0.0	-2.9	-167.9
1130112301	0.0	0.0	0.0	0.0	0.1	0.1	4.5	264.7	-0.1	-0.1	-4.5	-264.7
1230412302	0.0	0.0	0.0	0.0	0.0	0.0	0.4	23.2	0.0	0.0	-0.4	-23.2
1230112303	0.0	0.0	0.0	0.0	0.0	0.0	0.8	45.6	0.0	0.0	-0.8	-45.6
1230812304	0.0	0.0	0.0	0.0	0.0	0.0	0.4	21.4	0.0	0.0	-0.4	-21.4
1230612304	0.0	0.0	0.0	0.0	0.0	0.0	0.4	20.3	0.0	0.0	-0.4	-20.3
1230612305	0.0	0.0	0.0	0.0	0.0	0.0	0.4	20.6	0.0	0.0	-0.4	-20.6

1230312305	0.0	0.0	0.0	0.0	0.0	0.0	0.6	31.2	0.0	0.0	-0.6	-31.2	
950012306	0.0	0.0	0.0	0.0	0.0	0.0	0.8	57.5	0.0	0.0	-0.8	-57.5	
1230512306	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1231012306	0.0	0.0	0.0	0.0	0.0	0.0	1.6	76.3	0.0	0.0	-1.6	-76.3	
1230312307	0.0	0.0	0.0	0.0	0.0	0.0	0.4	24.9	0.0	0.0	-0.4	-24.9	
1231212308	0.0	0.0	0.0	0.0	0.0	0.0	0.7	40.5	0.0	0.0	-0.7	-40.5	
1230512309	0.0	0.0	0.0	0.0	0.0	0.1	3.1	149.3	0.0	-0.1	-3.1	-149.3	
1231212310	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.8	0.0	0.0	-0.1	-2.8	
1230712311	0.0	0.0	0.0	0.0	0.0	0.0	1.2	67.5	0.0	0.0	-1.2	-67.5	
1230912311	0.0	0.0	0.0	0.0	0.0	0.0	0.3	15.2	0.0	0.0	-0.3	-15.2	
231012312	0.0	0.0	0.0	0.0	0.0	0.0	0.4	25.2	0.0	0.0	-0.4	-25.2	
Total	18.2	203.6	12,378.7	622,332.2	15.9	175.0	10,729.5	543,375.3	2.3	28.6	1,649.2	78,956.9	

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 3] Accident Rates

[Section 3.1] Link Accident Rates

Link Name	*----- Accident Rate ----* 2023	2038 *

Accident rates are in accidents per million vehicle kilometres.

[Section 3.2] Junction Accident Rates

Junction Name	*---- Coefficient 'a' ---* 2023	2038 *

[Section 3.3] Combined Link and Junction Accident Rates

Link Name	*----- Accident Rate ----* 2023	2038 *
12021192	0.143220	0.114668
12081202	0.143220	0.114668

12421208	0.539109	0.445665
95511250	0.539109	0.445665
100011276	0.539109	0.445665
12941282	0.539109	0.445665
100081316	0.063991	0.051784
95521316	0.143220	0.114668
100321318	0.539109	0.445665
101241340	0.395754	0.328904
13061344	0.539109	0.445665
13401394	0.539109	0.445665
100241396	0.539109	0.445665
14201412	0.539109	0.445665
76481412	0.539109	0.445665
14121416	0.395754	0.328904
14241418	0.395754	0.328904
14221420	0.539109	0.445665
14281422	0.539109	0.445665
14401424	0.395754	0.328904
15081424	0.063991	0.051784
14181428	0.539109	0.445665
14501440	0.395754	0.328904
17661450	0.539109	0.445665
14561454	0.395754	0.328904
14161456	0.395754	0.328904
15221490	0.539109	0.445665
16181490	0.539109	0.445665
15161498	0.539109	0.445665
101261502	0.539109	0.445665
14921504	0.395754	0.328904
76321506	0.539109	0.445665
76401508	0.539109	0.445665
16041522	0.539109	0.445665
15461548	0.395754	0.328904
60151556	0.539109	0.445665
15481562	0.395754	0.328904
15621568	0.395754	0.328904
15581580	0.539109	0.445665
74781604	0.539109	0.445665
60141618	0.539109	0.445665
14901618	0.539109	0.445665
18541622	0.539109	0.445665
79081696	0.539109	0.445665
18661696	0.539109	0.445665
17681706	0.539109	0.445665
20881710	0.539109	0.445665
60141710	0.539109	0.445665
15681744	0.143220	0.114668
17801758	0.539109	0.445665
18041764	0.395754	0.328904
17581764	0.539109	0.445665
60521766	0.143220	0.114668
17941768	0.539109	0.445665
60521794	0.539109	0.445665
18161804	0.395754	0.328904

18341816	0.395754	0.328904
18341828	0.395754	0.328904
19881844	0.539109	0.445665
76441848	0.143220	0.114668
79361854	0.143220	0.114668
79061866	0.539109	0.445665
16961866	0.539109	0.445665
18781874	0.539109	0.445665
76181874	0.539109	0.445665
101691878	0.539109	0.445665
19601956	0.539109	0.445665
95251960	0.539109	0.445665
19561962	0.539109	0.445665
19741970	0.395754	0.328904
19621974	0.395754	0.328904
90161994	0.063991	0.051784
19621994	0.539109	0.445665
19841996	0.395754	0.328904
20842002	0.395754	0.328904
20722012	0.063991	0.051784
95192016	0.395754	0.328904
75962018	0.395754	0.328904
20482030	0.539109	0.445665
19742030	0.539109	0.445665
20302034	0.539109	0.445665
20122034	0.143220	0.114668
100582038	0.395754	0.328904
20442038	0.539109	0.445665
20382044	0.539109	0.445665
20342046	0.539109	0.445665
76382058	0.143220	0.114668
20462058	0.539109	0.445665
20962066	0.063991	0.051784
19942070	0.063991	0.051784
21102072	0.063991	0.051784
90152076	0.063991	0.051784
73722084	0.395754	0.328904
76362086	0.539109	0.445665
95092086	0.539109	0.445665
21742088	0.539109	0.445665
95022088	0.539109	0.445665
17102088	0.539109	0.445665
100562096	0.395754	0.328904
20762096	0.063991	0.051784
21702102	0.539109	0.445665
79062102	0.539109	0.445665
95032106	0.063991	0.051784
21062108	0.395754	0.328904
21302110	0.063991	0.051784
95052110	0.539109	0.445665
21082112	0.539109	0.445665
21482130	0.395754	0.328904
21402148	0.539109	0.445665
74762170	0.539109	0.445665

21022170	0.539109	0.445665
20882174	0.539109	0.445665
74762174	0.539109	0.445665
73712182	0.539109	0.445665
22242198	0.539109	0.445665
21742216	0.143220	0.114668
22482218	0.063991	0.051784
74742220	0.539109	0.445665
22702224	0.539109	0.445665
21982224	0.539109	0.445665
22462244	0.395754	0.328904
90092246	0.395754	0.328904
22442252	0.395754	0.328904
22522260	0.395754	0.328904
22742268	0.395754	0.328904
95272270	0.539109	0.445665
75742270	0.539109	0.445665
22242270	0.539109	0.445665
22802272	0.539109	0.445665
22722274	0.539109	0.445665
76782280	0.143220	0.114668
22602280	0.539109	0.445665
22162306	0.143220	0.114668
23742310	0.063991	0.051784
23902316	0.539109	0.445665
24162316	0.143220	0.114668
60502316	0.539109	0.445665
95272316	0.539109	0.445665
23462324	0.539109	0.445665
23062324	0.063991	0.051784
23582346	0.539109	0.445665
23802356	0.063991	0.051784
23562362	0.395754	0.328904
23742372	0.395754	0.328904
23242372	0.063991	0.051784
23822374	0.395754	0.328904
23722378	0.395754	0.328904
23842382	0.395754	0.328904
24082382	0.143220	0.114668
23782384	0.395754	0.328904
23622384	0.063991	0.051784
23922390	0.395754	0.328904
23162390	0.539109	0.445665
23902392	0.395754	0.328904
25162406	0.143220	0.114668
76382406	0.143220	0.114668
24202408	0.143220	0.114668
23822408	0.143220	0.114668
75722416	0.143220	0.114668
60492416	0.539109	0.445665
23162416	0.143220	0.114668
74842420	0.539109	0.445665
24362420	0.539109	0.445665
24082420	0.143220	0.114668

24782436	0.063991	0.051784
24202436	0.539109	0.445665
74862478	0.143220	0.114668
24362478	0.063991	0.051784
24922482	0.539109	0.445665
74822492	0.539109	0.445665
25122506	0.395754	0.328904
25062508	0.395754	0.328904
25182512	0.395754	0.328904
25082516	0.395754	0.328904
24062516	0.143220	0.114668
25262518	0.063991	0.051784
25162520	0.395754	0.328904
25482526	0.063991	0.051784
25202536	0.063991	0.051784
25762546	0.539109	0.445665
76782546	0.143220	0.114668
25842548	0.063991	0.051784
25362568	0.063991	0.051784
90052576	0.539109	0.445665
25462576	0.539109	0.445665
27082584	0.063991	0.051784
25942592	0.539109	0.445665
95392592	0.063991	0.051784
75722594	0.143220	0.114668
25982596	0.395754	0.328904
75702596	0.143220	0.114668
26422598	0.143220	0.114668
25922598	0.395754	0.328904
26162610	0.539109	0.445665
75702610	0.143220	0.114668
26342616	0.143220	0.114668
26102616	0.539109	0.445665
75762634	0.539109	0.445665
26162634	0.143220	0.114668
26402638	0.143220	0.114668
90052638	0.539109	0.445665
27282640	0.539109	0.445665
26382640	0.143220	0.114668
27022642	0.143220	0.114668
25982642	0.143220	0.114668
26902676	0.539109	0.445665
75762676	0.539109	0.445665
60362690	0.539109	0.445665
26762690	0.539109	0.445665
26422702	0.143220	0.114668
75882706	0.539109	0.445665
27142706	0.539109	0.445665
27102708	0.395754	0.328904
75882710	0.539109	0.445665
27082712	0.395754	0.328904
25682712	0.063991	0.051784
27282714	0.539109	0.445665
27062714	0.539109	0.445665

27222720	0.395754	0.328904
27262722	0.395754	0.328904
27422722	0.063991	0.051784
73462724	0.395754	0.328904
27162724	0.395754	0.328904
26402728	0.539109	0.445665
27142728	0.539109	0.445665
73462740	0.539109	0.445665
27482740	0.539109	0.445665
28162744	0.395754	0.328904
27542748	0.539109	0.445665
27402748	0.539109	0.445665
75782750	0.143220	0.114668
60362750	0.143220	0.114668
27642754	0.539109	0.445665
27482754	0.539109	0.445665
27662762	0.539109	0.445665
27642762	0.539109	0.445665
27702764	0.539109	0.445665
27542764	0.539109	0.445665
27622764	0.539109	0.445665
27622766	0.539109	0.445665
75782766	0.539109	0.445665
75802770	0.539109	0.445665
27642770	0.539109	0.445665
27402792	0.539109	0.445665
75802792	0.539109	0.445665
27922804	0.539109	0.445665
28042808	0.539109	0.445665
28082816	0.539109	0.445665
17106014	0.539109	0.445665
16186014	0.539109	0.445665
22206015	0.143220	0.114668
16226016	0.539109	0.445665
13446018	0.539109	0.445665
27506036	0.143220	0.114668
26906036	0.539109	0.445665
60506049	0.395754	0.328904
24166049	0.539109	0.445665
60516050	0.539109	0.445665
23166050	0.539109	0.445665
75746051	0.539109	0.445665
60496051	0.539109	0.445665
18486052	0.143220	0.114668
27407346	0.539109	0.445665
27167346	0.539109	0.445665
22187371	0.063991	0.051784
73767372	0.395754	0.328904
73777376	0.395754	0.328904
21827377	0.539109	0.445665
23167474	0.539109	0.445665
21747476	0.539109	0.445665
21707476	0.539109	0.445665
74797478	0.539109	0.445665

23807482	0.539109	0.445665
24827484	0.539109	0.445665
95397486	0.143220	0.114668
24787486	0.143220	0.114668
26107570	0.143220	0.114668
25967570	0.143220	0.114668
25947572	0.143220	0.114668
24167572	0.143220	0.114668
60517574	0.539109	0.445665
22707574	0.539109	0.445665
26347576	0.539109	0.445665
26767576	0.539109	0.445665
27507578	0.143220	0.114668
27667578	0.539109	0.445665
27927580	0.539109	0.445665
27707580	0.539109	0.445665
27067588	0.539109	0.445665
27207588	0.539109	0.445665
90147596	0.395754	0.328904
20447616	0.539109	0.445665
65027618	0.539109	0.445665
13807632	0.539109	0.445665
20867636	0.539109	0.445665
100567636	0.395754	0.328904
20587638	0.143220	0.114668
24067638	0.143220	0.114668
14067640	0.539109	0.445665
19567644	0.143220	0.114668
60187648	0.539109	0.445665
13067656	0.539109	0.445665
60167672	0.539109	0.445665
22807678	0.143220	0.114668
25467678	0.143220	0.114668
21027906	0.539109	0.445665
18667906	0.539109	0.445665
16967908	0.539109	0.445665
79097908	0.539109	0.445665
18547936	0.143220	0.114668
15027944	0.539109	0.445665
26389005	0.539109	0.445665
25769005	0.539109	0.445665
22489009	0.395754	0.328904
20169014	0.395754	0.328904
20129015	0.143220	0.114668
20669016	0.063991	0.051784
23929500	0.063991	0.051784
95019500	0.539109	0.445665
95029501	0.539109	0.445665
20889502	0.539109	0.445665
20709503	0.063991	0.051784
100589509	0.395754	0.328904
20869509	0.539109	0.445665
19969519	0.395754	0.328904
17449525	0.539109	0.445665

23169527	0.539109	0.445665
22709527	0.539109	0.445665
25929539	0.063991	0.051784
74869539	0.143220	0.114668
95529551	0.539109	0.445665
13169552	0.143220	0.114668
12509552	0.539109	0.445665
130010001	0.539109	0.445665
149810008	0.395754	0.328904
1015410024	0.539109	0.445665
765610032	0.539109	0.445665
763610056	0.395754	0.328904
209610056	0.395754	0.328904
203810058	0.395754	0.328904
950910058	0.395754	0.328904
133210124	0.539109	0.445665
139410126	0.539109	0.445665
135810154	0.539109	0.445665
190210169	0.539109	0.445665
761610173	0.395754	0.328904
21482108	0.332336	0.274732
21062112	0.063991	0.051784
21402130	0.063991	0.051784
103022140	0.063991	0.051784
21082148	0.332336	0.274732
123112306	0.063991	0.051784
123069500	0.143220	0.114668
211210301	0.063991	0.051784
1130210302	0.063991	0.051784
1030111301	0.063991	0.051784
1230211302	0.063991	0.051784
1130112301	0.063991	0.051784
1230412302	0.063991	0.051784
1230112303	0.063991	0.051784
1230812304	0.063991	0.051784
1230612304	0.332336	0.274732
1230612305	0.332336	0.274732
1230312305	0.332336	0.274732
950012306	0.143220	0.114668
1230512306	0.332336	0.274732
1231012306	0.365362	0.303646
1230312307	0.063991	0.051784
1231212308	0.063991	0.051784
1230512309	0.365362	0.303646
1231212310	0.365362	0.303646
1230712311	0.063991	0.051784
1230912311	0.365362	0.303646
231012312	0.063991	0.051784

Accident rates are in accidents per million vehicle kilometres.

[Section 4] Input Data - Scheme File

Scheme Name
Arundel Option 5A Analysis

Years Subsection

Current Year	2017
Base Year	2015
Without-Scheme	
Year 1	2023
Year 2	2041
Year 3	0
Year 4	0
Year 5	0
With-Scheme	
Year 1	2023
Year 2	2041
Year 3	0
Year 4	0
Year 5	0

Scheme Opening Year 2023

Link Input Section

Link Classification Subsection

Link Name	Road Type	Length (km)	Speed Limit (mph)	Error/Warning Summary (!=Error, #=Warning)

Link Flow Subsection

Link	Base Year	Without-Scheme Flows					With-Scheme Flows				
Name	Flows	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5

Link Local Accident Rate Subsection

Link Name	Observed Accidents	First Observed Accident Year	Local Severity Split Ratio	Year

Junction Input Section

Junction Classification Subsection

Junction Name	Junction Geometry	Highest Carriageway	Highest Standard	Speed Limit (mph)	Error/Warning Summary (!=Error, #=Warning)

Junction Flow Subsection

Base Year Flows

Junction Name	Arm 1 (Major)	Arm 2 (Minor)	Arm 3 (Major)	Arm 4 (Minor)	Arm 5 (Major)	Arm 6 (Minor)

Without-Scheme Year Flows

Junction	Year	Arm 1	Arm 2	Arm 3	Arm 4	Arm 5	Arm 6

Name	(Major)	(Minor)	(Major)	(Minor)	(Major)	(Minor)

With-Scheme Year Flows

Junction Name	Year	Arm 1 (Major)	Arm 2 (Minor)	Arm 3 (Major)	Arm 4 (Minor)	Arm 5 (Major)

Junction Local Accident Rate Subsection

Junction Name	Observed Accidents	First Observed Accident Year	Local Severity Ratio	Split Year

Link and Junction Combined Input Section

Combined Classification Subsection

Link Name	Road Type	Length (km)	Speed Limit (mph)	Error/Warning Summary (!=Error, #=Warning)
12021192	8	1.30	50	
12081202	8	0.08	50	
12421208	8	2.23	40	
95511250	8	0.15	30	
100011276	8	0.26	30	
12941282	8	0.42	30	
100081316	12	0.73	60	
95521316	8	1.00	50	
100321318	8	0.34	30	
101241340	12	0.42	30	
13061344	8	0.34	30	
13401394	8	0.72	30	
100241396	8	0.17	30	
14201412	8	0.04	30	
76481412	8	0.09	30	
14121416	12	0.02	30	
14241418	12	0.03	30	
14221420	8	0.87	40	
14281422	8	0.51	40	
14401424	12	0.02	30	
15081424	12	0.87	50	
14181428	8	0.04	30	
14501440	12	0.04	30	
17661450	8	1.40	40	
14561454	12	0.02	30	
14161456	12	0.77	40	
15221490	8	0.42	40	
16181490	8	0.81	40	
15161498	8	0.91	40	
101261502	8	0.55	30	
14921504	12	0.06	30	
76321506	8	0.19	30	
76401508	8	0.46	30	
16041522	8	0.63	40	
15461548	12	0.03	30	
60151556	8	0.63	30	
15481562	12	0.02	30	
15621568	12	0.04	30	
15581580	8	0.56	30	

74781604	8	0.40	30
60141618	8	0.43	40
14901618	8	0.81	40
18541622	8	1.36	40
79081696	8	1.02	30
18661696	8	0.66	30
17681706	8	0.40	30
20881710	8	1.31	40
60141710	8	0.22	40
15681744	8	0.76	50
17801758	8	0.10	30
18041764	12	0.35	30
17581764	8	0.26	30
60521766	8	0.20	50
17941768	8	0.54	40
60521794	8	0.05	30
18161804	12	0.07	30
18341816	12	0.03	30
18341828	12	0.02	30
19881844	8	0.54	40
76441848	8	0.81	60
79361854	8	0.44	50
79061866	8	0.48	30
16961866	8	0.66	30
18781874	8	0.02	30
76181874	8	0.41	30
101691878	8	0.35	30
19601956	8	0.04	30
95251960	8	0.87	40
19561962	8	0.03	30
19741970	12	0.03	30
19621974	12	0.02	30
90161994	12	0.52	60
19621994	8	0.57	40
19841996	12	0.52	40
20842002	12	0.93	40
20722012	12	0.83	60
95192016	12	0.50	40
75962018	12	0.29	40
20482030	8	0.03	30
19742030	8	0.16	30
20302034	8	0.03	30
20122034	8	0.61	60
100582038	12	0.45	40
20442038	8	0.40	40
20382044	8	0.40	40
20342046	8	0.02	30
76382058	8	0.95	60
20462058	8	0.03	30
20962066	12	1.93	60
19942070	12	1.81	60
21102072	12	2.87	60
90152076	12	0.52	60
73722084	12	0.85	40

76362086	8	0.29	40
95092086	8	0.03	40
21742088	8	0.72	30
95022088	8	0.60	30
17102088	8	1.31	40
100562096	12	0.29	40
20762096	12	1.85	60
21702102	8	0.38	30
79062102	8	0.48	30
95032106	12	2.07	60
21062108	12	0.06	30
21302110	12	1.80	60
95052110	8	3.15	30
21082112	8	0.03	30
21482130	12	0.09	30
21402148	8	0.03	30
74762170	8	0.18	30
21022170	8	0.38	30
20882174	8	0.72	30
74762174	8	0.22	30
73712182	8	0.06	40
22242198	8	0.32	40
21742216	8	0.15	50
22482218	12	0.13	70
74742220	8	0.37	30
22702224	8	0.47	40
21982224	8	0.32	40
22462244	12	0.03	30
90092246	12	0.32	30
22442252	12	0.05	30
22522260	12	0.03	30
22742268	12	0.06	30
95272270	8	0.47	40
75742270	8	0.33	40
22242270	8	0.47	40
22802272	8	0.10	30
22722274	8	0.03	30
76782280	8	1.91	50
22602280	8	0.12	30
22162306	8	0.57	50
23742310	12	1.52	60
23902316	8	0.71	40
24162316	8	0.73	60
60502316	8	0.44	30
95272316	8	0.47	40
23462324	8	0.86	30
23062324	12	1.19	60
23582346	8	0.02	30
23802356	12	1.08	60
23562362	12	0.02	30
23742372	12	0.02	30
23242372	12	0.34	60
23822374	12	0.02	30
23722378	12	0.02	30

23842382	12	0.02	30
24082382	8	0.82	60
23782384	12	0.02	30
23622384	12	0.64	60
23922390	12	1.02	40
23162390	8	0.71	40
23902392	12	1.02	40
25162406	8	3.63	60
76382406	8	0.78	60
24202408	8	0.34	60
23822408	8	0.82	60
75722416	8	1.37	60
60492416	8	0.79	30
23162416	8	0.73	60
74842420	8	0.60	30
24362420	8	0.38	40
24082420	8	0.34	60
24782436	12	0.75	50
24202436	8	0.38	40
74862478	8	2.06	50
24362478	12	0.75	50
24922482	8	1.84	40
74822492	8	0.75	40
25122506	12	0.03	30
25062508	12	0.02	30
25182512	12	0.03	30
25082516	12	0.03	30
24062516	8	3.63	60
25262518	12	0.28	60
25162520	12	0.04	30
25482526	12	0.59	60
25202536	12	0.46	60
25762546	8	1.41	40
76782546	8	1.62	50
25842548	12	0.96	60
25362568	12	0.95	60
90052576	8	1.74	30
25462576	8	1.41	40
27082584	12	2.86	60
25942592	8	0.04	30
95392592	12	0.10	50
75722594	8	1.98	60
25982596	12	0.05	30
75702596	8	0.88	50
26422598	8	1.93	60
25922598	12	0.11	30
26162610	8	0.23	30
75702610	8	0.78	50
26342616	8	1.27	60
26102616	8	0.23	30
75762634	8	0.50	40
26162634	8	1.27	60
26402638	8	0.14	50
90052638	8	0.95	30

27282640	8	3.00	40
26382640	8	0.14	50
27022642	8	0.73	50
25982642	8	1.93	60
26902676	8	0.33	40
75762676	8	0.45	40
60362690	8	3.66	40
26762690	8	0.33	40
26422702	8	0.73	50
75882706	8	0.57	40
27142706	8	0.52	30
27102708	12	0.02	30
75882710	8	0.67	30
27082712	12	0.04	30
25682712	12	2.93	60
27282714	8	0.95	30
27062714	8	0.52	30
27222720	12	0.03	30
27262722	12	0.04	30
27422722	12	0.64	60
73462724	12	0.04	30
27162724	12	0.04	30
26402728	8	3.00	40
27142728	8	0.95	30
73462740	8	2.16	40
27482740	8	0.48	40
28162744	12	1.93	40
27542748	8	0.26	30
27402748	8	0.48	40
75782750	8	0.37	60
60362750	8	0.90	60
27642754	8	0.30	30
27482754	8	0.26	30
27662762	8	0.45	30
27642762	8	0.05	30
27702764	8	0.28	30
27542764	8	0.30	30
27622764	8	0.05	30
27622766	8	0.45	30
75782766	8	0.35	30
75802770	8	0.35	30
27642770	8	0.28	30
27402792	8	1.04	40
75802792	8	0.46	30
27922804	8	0.22	30
28042808	8	0.20	30
28082816	8	0.83	40
17106014	8	0.22	40
16186014	8	0.43	40
22206015	8	2.18	50
16226016	8	0.17	30
13446018	8	0.14	30
27506036	8	0.90	60
26906036	8	3.66	40

60506049	12	0.04	30
24166049	8	0.79	30
60516050	8	0.04	30
23166050	8	0.44	30
75746051	8	0.38	30
60496051	8	0.06	30
18486052	8	0.22	50
27407346	8	2.16	40
27167346	8	0.04	30
22187371	12	0.62	60
73767372	12	0.05	40
73777376	12	0.03	40
21827377	8	0.02	40
23167474	8	0.41	30
21747476	8	0.22	30
21707476	8	0.18	30
74797478	8	0.71	30
23807482	8	0.83	40
24827484	8	0.69	30
95397486	8	2.49	50
24787486	8	2.06	50
26107570	8	0.78	50
25967570	8	0.88	50
25947572	8	1.98	60
24167572	8	1.37	60
60517574	8	0.38	30
22707574	8	0.33	40
26347576	8	0.50	40
26767576	8	0.45	40
27507578	8	0.37	60
27667578	8	0.35	30
27927580	8	0.46	30
27707580	8	0.35	30
27067588	8	0.57	30
27207588	8	0.44	40
90147596	12	0.20	40
20447616	8	0.99	30
65027618	8	0.50	30
13807632	8	0.20	30
20867636	8	0.29	40
100567636	12	0.19	40
20587638	8	0.95	60
24067638	8	0.78	60
14067640	8	0.30	30
19567644	8	0.84	60
60187648	8	0.08	30
13067656	8	0.33	30
60167672	8	0.23	30
22807678	8	1.91	50
25467678	8	1.62	50
21027906	8	0.48	30
18667906	8	0.48	30
16967908	8	1.02	30
79097908	8	0.21	30

18547936	8	0.44	50
15027944	8	0.53	30
26389005	8	0.95	30
25769005	8	1.74	30
22489009	12	0.23	40
20169014	12	0.04	40
20129015	8	0.60	60
20669016	12	0.49	60
23929500	12	1.23	60
95019500	8	0.65	40
95029501	8	0.65	40
20889502	8	0.60	30
20709503	12	1.69	60
100589509	12	0.75	40
20869509	8	0.03	40
19969519	12	0.14	40
17449525	8	0.87	40
23169527	8	0.47	40
22709527	8	0.47	40
25929539	12	0.10	50
74869539	8	2.49	50
95529551	8	0.60	40
13169552	8	1.00	50
12509552	8	0.50	40
130010001	8	0.12	30
149810008	12	0.10	40
1015410024	8	0.04	30
765610032	8	0.27	30
763610056	12	0.19	40
209610056	12	0.29	40
203810058	12	0.45	40
950910058	12	0.75	40
133210124	8	0.30	30
139410126	8	0.12	30
135810154	8	0.65	30
190210169	8	0.21	30
761610173	12	0.64	40
21482108	4	0.10	30
21062112	10	0.50	60
21402130	10	0.50	60
103022140	10	2.20	70
21082148	4	0.10	30
123112306	10	0.20	70
123069500	4	0.70	60
211210301	10	2.20	70
1130210302	10	1.20	70
1030111301	10	1.20	70
1230211302	10	1.45	70
1130112301	10	1.45	70
1230412302	10	0.20	70
1230112303	10	0.25	70
1230812304	10	0.22	70
1230612304	4	0.22	40
1230612305	4	0.10	30

1230312305	4	0.18	40
950012306	4	0.70	60
1230512306	4	0.10	30
1231012306	10	0.32	40
1230312307	10	0.18	70
1231212308	10	0.42	70
1230512309	10	0.32	40
1231212310	10	0.10	40
1230712311	10	0.48	70
1230912311	10	0.15	40
231012312	10	0.25	70

Combined Flow Subsection

Link Name	Base Year Flows	Without-Scheme Flows Year 1	Year 2	Year 3	Year 4	Year 5	With-Scheme Flows Year 1	Year 2	Year 3	Year 4	Year 5
12021192	545	617	9,002	0	0	0	856	11,097	0	0	0
12081202	871	813	12,070	0	0	0	1,118	14,885	0	0	0
12421208	864	759	11,147	0	0	0	1,009	13,270	0	0	0
95511250	0	441	2,915	0	0	0	228	1,244	0	0	0
100011276	351	480	6,902	0	0	0	337	4,894	0	0	0
12941282	109	512	6,584	0	0	0	322	4,764	0	0	0
100081316	701	876	13,210	0	0	0	626	9,799	0	0	0
95521316	1,168	1,756	26,136	0	0	0	1,585	23,808	0	0	0
100321318	179	323	4,515	0	0	0	155	2,812	0	0	0
101241340	609	572	13,295	0	0	0	587	14,949	0	0	0
13061344	240	256	2,561	0	0	0	425	4,226	0	0	0
13401394	580	549	12,796	0	0	0	565	14,492	0	0	0
100241396	533	604	6,959	0	0	0	562	4,615	0	0	0
14201412	1,751	2,019	29,717	0	0	0	1,463	24,683	0	0	0
76481412	194	221	2,186	0	0	0	404	3,984	0	0	0
14121416	1,488	1,732	24,726	0	0	0	1,382	21,985	0	0	0
14241418	1,403	1,587	23,502	0	0	0	1,228	19,998	0	0	0
14221420	1,116	1,318	19,856	0	0	0	881	15,696	0	0	0
14281422	1,195	1,386	20,509	0	0	0					

```
1,039   17,669  0       0       0
    14401424        88              197     2,492   0       0       0       57
   899     0       0       0
    15081424        1,315           1,390   21,011  0       0       0
1,171   19,099  0       0       0
    14181428        1,496           1,687   25,649  0       0       0
1,345   22,852  0       0       0
    14501440        1,373           1,488   26,490  0       0       0
1,293   24,625  0       0       0
    17661450        89              203     2,586   0       0       0       57
   936     0       0       0
    14561454        1,363           1,728   25,674  0       0       0
1,406   23,456  0       0       0
    14161456        1,353           1,673   23,914  0       0       0
1,327   21,226  0       0       0
    15221490        80              572     9,355   0       0       0       553
   5,941   0       0       0
    16181490        56              181     3,138   0       0       0       531
   7,459   0       0       0
    15161498        808             1,153   16,147  0       0       0       974
   13,377  0       0       0
    101261502       1,110           1,022   19,081  0       0       0
1,069   21,147  0       0       0
    14921504        1,549           1,585   25,129  0       0       0
1,780   26,713  0       0       0
    76321506        560             731     10,997  0       0       0       794
   12,893  0       0       0
    76401508        160             235     4,148   0       0       0       105
   2,236   0       0       0
    16041522        80              572     9,355   0       0       0       553
   5,941   0       0       0
    15461548        1,692           1,765   26,798  0       0       0
1,784   29,185  0       0       0
    60151556        252             624     6,640   0       0       0       806
   9,040   0       0       0
    15481562        434             502     8,303   0       0       0       705
   11,442  0       0       0
    15621568        1,733           1,811   32,357  0       0       0
1,957   35,213  0       0       0
    15581580        576             515     10,558  0       0       0       546
   12,149  0       0       0
    74781604        80              572     9,355   0       0       0       553
   5,941   0       0       0
    60141618        181             99      2,344   0       0       0       395
   4,348   0       0       0
    14901618        40              588     11,329  0       0       0       623
   9,731   0       0       0
    18541622        576             2       353     0       0       0       76
   2,206   0       0       0
    79081696        20              231     3,978   0       0       0       226
   7,472   0       0       0
    18661696        0               417     3,901   0       0       0       630
   5,616   0       0       0
    17681706        638             621     8,013   0       0       0       352
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   6,324   0       0       0
    20881710        181             99      2,344   0       0       0       395
   4,348   0       0       0
    60141710        43              65      2,538   0       0       0       31
   590     0       0       0
    15681744        254             324     5,979   0       0       0       535
   8,757   0       0       0
    17801758        490             485     9,096   0       0       0       534
   11,012  0       0       0
    18041764        560             500     8,897   0       0       0       416
   6,859   0       0       0
    17581764        361             327     6,102   0       0       0       309
   7,793   0       0       0
    60521766        89              203     2,586   0       0       0       57
   936     0       0       0
    17941768        623             611     7,856   0       0       0       342
   6,146   0       0       0
    60521794        632             619     7,926   0       0       0       342
   6,145   0       0       0
    18161804        1,100           1,009   16,592  0       0       0       871
   14,047  0       0       0
    18341816        1,100           1,009   16,591  0       0       0       871
   14,047  0       0       0
    18341828        872             888     13,780  0       0       0
1,104   15,873  0       0       0
    19881844        669             896     11,286  0       0       0       777
   9,705   0       0       0
    76441848        721             822     10,513  0       0       0       399
   7,081   0       0       0
    79361854        576             194     7,120   0       0       0       938
   13,984  0       0       0
    79061866        0               417     3,901   0       0       0       630
   5,616   0       0       0
    16961866        0               215     3,552   0       0       0       223
   6,873   0       0       0
    18781874        627             533     10,485  0       0       0       695
   12,973  0       0       0
    76181874        150             127     3,430   0       0       0       353
   4,965   0       0       0
    101691878       119             92      1,937   0       0       0       164
   3,882   0       0       0
    19601956        1,439           1,630   24,326  0       0       0
1,993   27,065  0       0       0
    95251960        389             615     9,890   0       0       0       907
   12,960  0       0       0
    19561962        1,240           1,176   21,189  0       0       0
1,882   25,869  0       0       0
    19741970        1,451           1,449   23,213  0       0       0
1,685   24,895  0       0       0
    19621974        646             647     11,187  0       0       0       562
   9,123   0       0       0
    90161994        844             1,053   15,184  0       0       0
1,445   18,498  0       0       0
    19621994        594             529     10,003  0       0       0
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1,320 16,746 0 0 0
19841996 1,627 1,480 23,919 0 0 0
1,571 25,460 0 0 0
20842002 1,576 1,470 24,175 0 0 0
1,585 26,204 0 0 0
20722012 1,229 1,364 22,403 0 0 0
2,288 37,793 0 0 0
95192016 1,577 1,432 23,276 0 0 0
1,530 24,941 0 0 0
75962018 1,423 1,259 22,308 0 0 0
1,370 23,851 0 0 0
20482030 1,387 1,276 20,719 0 0 0
1,522 22,267 0 0 0
19742030 581 473 8,510 0 0 0 377
6,128 0 0 0
20302034 582 474 8,583 0 0 0 377
6,180 0 0 0
20122034 464 482 8,458 0 0 0
1,022 17,014 0 0 0
100582038 1,101 1,228 19,551 0 0 0
1,480 22,950 0 0 0
20442038 1,258 1,571 19,759 0 0 0
1,704 21,511 0 0 0
20382044 1,120 1,264 20,031 0 0 0
1,510 22,152 0 0 0
20342046 1,046 956 17,041 0 0 0
1,399 23,194 0 0 0
76382058 1,044 862 14,774 0 0 0
1,253 16,831 0 0 0
20462058 1,065 969 17,373 0 0 0
1,418 23,601 0 0 0
20962066 1,046 1,348 18,912 0 0 0
1,602 21,463 0 0 0
19942070 1,438 1,582 25,187 0 0 0
2,765 35,244 0 0 0
21102072 1,237 1,366 22,433 0 0 0
2,297 37,922 0 0 0
90152076 765 882 13,945 0 0 0
1,266 20,779 0 0 0
73722084 1,576 1,470 24,175 0 0 0
1,585 26,204 0 0 0
76362086 1,009 1,120 17,795 0 0 0
1,485 23,580 0 0 0
95092086 1,205 1,556 20,902 0 0 0
1,714 22,704 0 0 0
21742088 11 4 1,735 0 0 0 284
6,997 0 0 0
95022088 170 96 1,446 0 0 0 758
8,460 0 0 0
17102088 43 65 2,538 0 0 0 31
590 0 0 0
100562096 1,046 1,348 18,912 0 0 0
1,602 21,463 0 0 0
20762096 988 1,116 17,764 0 0 0

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1,496   23,836  0       0       0
    21702102        0               417     3,901   0       0       0       630
   5,616   0       0       0
    79062102        0               215     3,552   0       0       0       223
   6,873   0       0       0
    95032106        1,476           1,507   23,885  0       0       0
2,851   35,781  0       0       0
    21062108        1,782           1,238   23,355  0       0       0       601
   8,013   0       0       0
    21302110        1,227           1,341   20,156  0       0       0
2,293   37,709  0       0       0
    95052110        5               17      2,066   0       0       0       0
   39      0       0       0
    21082112        1,194           1,046   16,583  0       0       0       559
   5,749   0       0       0
    21482130        1,564           1,502   23,579  0       0       0       865
   12,556  0       0       0
    21402148        64              2       1,679   0       0       0       265
   3,424   0       0       0
    74762170        80              591     7,884   0       0       0       850
   10,439  0       0       0
    21022170        0               215     3,552   0       0       0       223
   6,873   0       0       0
    20882174        43              16      0       0       0       0       367
   4,179   0       0       0
    74762174        26              360     7,878   0       0       0       400
   10,989  0       0       0
    73712182        1,440           1,330   23,757  0       0       0
1,463   25,772  0       0       0
    22242198        1,540           1,712   25,533  0       0       0
1,176   16,126  0       0       0
    21742216        54              373     6,143   0       0       0       116
   4,089   0       0       0
    22482218        1,189           1,074   20,324  0       0       0
1,288   23,103  0       0       0
    74742220        252             624     6,639   0       0       0       806
   9,040   0       0       0
    22702224        1,556           1,734   27,438  0       0       0
1,174   16,016  0       0       0
    21982224        1,437           1,500   21,900  0       0       0       620
   7,481   0       0       0
    22462244        1,064           1,202   21,156  0       0       0       971
   17,578  0       0       0
    90092246        433             582     10,863  0       0       0       347
   7,773   0       0       0
    22442252        633             745     13,116  0       0       0       512
   10,454  0       0       0
    22522260        1,047           1,229   21,157  0       0       0       928
   17,572  0       0       0
    22742268        628             685     10,835  0       0       0       608
   9,223   0       0       0
    95272270        1,248           1,160   17,133  0       0       0       891
   12,950  0       0       0
    75742270        346             613     10,771  0       0       0       310
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   3,440   0       0       0
    22242270        1,459           1,579   22,470  0       0       0       617
   7,411   0       0       0
    22802272        942             985     19,171  0       0       0       873
   16,108  0       0       0
    22722274        994             1,014   19,805  0       0       0       905
   16,756  0       0       0
    76782280        942             985     19,173  0       0       0       873
   16,106  0       0       0
    22602280        996             1,199   20,522  0       0       0       896
   16,925  0       0       0
    22162306        54              373     6,143   0       0       0       116
   4,089   0       0       0
    23742310        1,163           1,217   16,999  0       0       0
1,500   21,892  0       0       0
    23902316        1,006           1,122   17,099  0       0       0       132
   1,555   0       0       0
    24162316        511             428     4,230   0       0       0       876
   13,116  0       0       0
    60502316        34              582     4,370   0       0       0       37
   482     0       0       0
    95272316        1,311           921     16,911  0       0       0       633
   7,380   0       0       0
    23462324        0               0       5,487   0       0       0       0
   3,678   0       0       0
    23062324        1,246           1,182   17,987  0       0       0
2,213   31,680  0       0       0
    23582346        1,739           1,995   33,290  0       0       0
1,995   31,085  0       0       0
    23802356        1,426           1,370   25,486  0       0       0
1,386   22,363  0       0       0
    23562362        1,657           1,877   32,059  0       0       0
1,916   29,201  0       0       0
    23742372        506             1,159   15,469  0       0       0       42
   433     0       0       0
    23242372        1,210           1,079   21,932  0       0       0
2,082   33,280  0       0       0
    23822374        1,669           2,375   32,468  0       0       0
1,543   22,338  0       0       0
    23722378        1,715           2,237   37,109  0       0       0
2,124   31,727  0       0       0
    23842382        1,633           2,118   33,442  0       0       0
1,922   26,987  0       0       0
    24082382        504             1,113   14,946  0       0       0       43
   488     0       0       0
    23782384        14              353     11,111  0       0       0       119
   7,191   0       0       0
    23622384        1,619           1,765   23,932  0       0       0
1,803   22,349  0       0       0
    23922390        1,006           1,122   17,099  0       0       0       132
   1,555   0       0       0
    23162390        1,281           1,333   18,563  0       0       0       118
   1,846   0       0       0
    23902392        1,281           1,333   18,563  0       0       0       118
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   1,846   0       0       0
    25162406        734             558     11,142  0       0       0       958
   13,439  0       0       0
    76382406        463             294     7,107   0       0       0       813
   13,383  0       0       0
    24202408        513             1,119   15,029  0       0       0       48
   593     0       0       0
    23822408        468             855     15,921  0       0       0       422
   4,833   0       0       0
    75722416        519             589     7,152   0       0       0       884
   13,228  0       0       0
    60492416        158             123     1,812   0       0       0       5
   90      0       0       0
    23162416        193             193     1,873   0       0       0       401
   7,072   0       0       0
    74842420        9               0       87      0       0       0       8
   4,631   0       0       0
    24362420        545             1,160   16,886  0       0       0       48
   1,901   0       0       0
    24082420        477             862     16,035  0       0       0       427
   4,957   0       0       0
    24782436        536             1,155   16,851  0       0       0       508
   10,034  0       0       0
    24202436        472             860     16,102  0       0       0       420
   8,441   0       0       0
    74862478        536             1,155   16,851  0       0       0       508
   10,034  0       0       0
    24362478        472             860     17,818  0       0       0       420
   8,441   0       0       0
    24922482        0               0       87      0       0       0       0
   4,558   0       0       0
    74822492        8               6       295     0       0       0       6
   4,766   0       0       0
    25122506        1,690           1,465   22,260  0       0       0
1,806   24,539  0       0       0
    25062508        699             543     9,761   0       0       0       924
   12,033  0       0       0
    25182512        1,688           1,461   22,166  0       0       0
1,811   24,539  0       0       0
    25082516        1,501           1,245   21,956  0       0       0
1,594   23,707  0       0       0
    24062516        451             280     6,729   0       0       0       807
   13,109  0       0       0
    25262518        1,655           1,429   21,352  0       0       0
1,775   23,325  0       0       0
    25162520        1,218           968     17,542  0       0       0
1,443   23,378  0       0       0
    25482526        1,655           1,429   21,352  0       0       0
1,775   23,422  0       0       0
    25202536        1,184           937     16,729  0       0       0
1,408   21,900  0       0       0
    25762546        735             795     17,606  0       0       0       717
   15,100  0       0       0
    76782546        996             1,199   20,523  0       0       0       896
```

```
   16,925  0       0       0
    25842548        1,650           1,423   21,312  0       0       0
1,769   23,394  0       0       0
    25362568        1,184           937     16,729  0       0       0
1,408   21,900  0       0       0
    90052576        619             678     15,553  0       0       0       650
   13,229  0       0       0
    25462576        813             1,068   19,564  0       0       0       780
   16,643  0       0       0
    27082584        1,650           1,423   21,312  0       0       0
1,769   23,394  0       0       0
    25942592        896             1,460   21,041  0       0       0       891
   16,772  0       0       0
    95392592        472             868     17,950  0       0       0       420
   8,501   0       0       0
    75722594        310             245     3,591   0       0       0       325
   5,616   0       0       0
    25982596        918             1,348   23,387  0       0       0       966
   16,743  0       0       0
    75702596        533             1,074   14,919  0       0       0       593
   11,981  0       0       0
    26422598        541             701     9,818   0       0       0       776
   11,741  0       0       0
    25922598        823             1,164   22,010  0       0       0       793
   15,086  0       0       0
    26162610        533             1,074   14,921  0       0       0       593
   11,980  0       0       0
    75702610        388             723     13,832  0       0       0       212
   5,730   0       0       0
    26342616        560             1,130   14,870  0       0       0       633
   11,875  0       0       0
    26102616        388             723     13,832  0       0       0       212
   5,730   0       0       0
    75762634        560             1,130   14,870  0       0       0       633
   11,875  0       0       0
    26162634        416             795     14,592  0       0       0       280
   6,442   0       0       0
    26402638        516             580     15,263  0       0       0       569
   13,673  0       0       0
    90052638        577             864     15,519  0       0       0       591
   12,316  0       0       0
    27282640        439             501     13,995  0       0       0       490
   12,392  0       0       0
    26382640        661             956     17,083  0       0       0       648
   13,753  0       0       0
    27022642        541             701     9,818   0       0       0       776
   11,741  0       0       0
    25982642        446             518     8,442   0       0       0       603
   10,083  0       0       0
    26902676        560             1,130   14,870  0       0       0       633
   11,875  0       0       0
    75762676        416             795     14,591  0       0       0       280
   6,442   0       0       0
    60362690        560             1,130   14,870  0       0       0       633
```

```
   11,875  0       0       0
    26762690        416             795     14,591  0       0       0       280
   6,442   0       0       0
    26422702        446             518     8,442   0       0       0       603
   10,083  0       0       0
    75882706        291             335     8,768   0       0       0       319
   7,193   0       0       0
    27142706        599             912     16,171  0       0       0       598
   12,853  0       0       0
    27102708        2,434           2,892   42,566  0       0       0
2,519   39,253  0       0       0
    75882710        599             912     16,171  0       0       0       598
   13,332  0       0       0
    27082712        784             1,468   21,254  0       0       0       749
   15,858  0       0       0
    25682712        1,184           937     16,729  0       0       0
1,408   21,900  0       0       0
    27282714        599             912     16,171  0       0       0       598
   12,850  0       0       0
    27062714        462             523     14,292  0       0       0       510
   12,744  0       0       0
    27222720        2,125           2,333   36,075  0       0       0
2,241   33,246  0       0       0
    27262722        509             525     12,350  0       0       0       495
   9,920   0       0       0
    27422722        1,616           1,820   25,993  0       0       0
1,745   24,215  0       0       0
    73462724        653             950     12,892  0       0       0       413
   6,274   0       0       0
    27162724        1,362           1,086   20,763  0       0       0
1,591   26,083  0       0       0
    26402728        572             882     16,047  0       0       0       570
   12,510  0       0       0
    27142728        462             523     14,292  0       0       0       510
   12,744  0       0       0
    73462740        606             1,319   17,219  0       0       0       566
   11,675  0       0       0
    27482740        464             782     9,247   0       0       0       264
   3,473   0       0       0
    28162744        0               2       5,371   0       0       0       0
   2,862   0       0       0
    27542748        394             773     8,839   0       0       0       259
   3,156   0       0       0
    27402748        595             1,065   13,488  0       0       0       566
   11,132  0       0       0
    75782750        560             1,130   14,870  0       0       0       633
   11,875  0       0       0
    60362750        416             795     14,591  0       0       0       280
   6,442   0       0       0
    27642754        394             773     8,839   0       0       0       259
   3,156   0       0       0
    27482754        536             1,104   13,605  0       0       0       603
   11,257  0       0       0
    27662762        416             795     14,591  0       0       0       280
```

```
6,442   0       0       0
 27642762        560             1,190   16,235  0       0       0       633
11,875  0       0       0
 27702764        24              130     3,068   0       0       0       31
618     0       0       0
 27542764        536             1,104   13,605  0       0       0       602
11,257  0       0       0
 27622764        416             795     14,591  0       0       0       280
6,442   0       0       0
 27622766        560             1,272   15,903  0       0       0       633
11,875  0       0       0
 75782766        416             795     14,591  0       0       0       280
6,442   0       0       0
 75802770        24              274     4,235   0       0       0       31
618     0       0       0
 27642770        22              23      5,751   0       0       0       21
3,286   0       0       0
 27402792        11              254     3,732   0       0       0       1
544     0       0       0
 75802792        22              22      5,751   0       0       0       21
3,286   0       0       0
 27922804        34              26      5,751   0       0       0       22
3,830   0       0       0
 28042808        12              13      5,475   0       0       0       11
2,975   0       0       0
 28082816        0               2       5,361   0       0       0       0
2,852   0       0       0
 17106014        181             99      2,344   0       0       0       395
4,348   0       0       0
 16186014        43              65      2,538   0       0       0       31
590     0       0       0
 22206015        252             624     6,639   0       0       0       806
9,040   0       0       0
 16226016        587             28      613     0       0       0       81
2,300   0       0       0
 13446018        162             191     1,792   0       0       0       374
3,577   0       0       0
 27506036        560             1,130   14,870  0       0       0       633
11,875  0       0       0
 26906036        416             795     14,591  0       0       0       280
6,442   0       0       0
 60506049        186             333     7,162   0       0       0       28
513     0       0       0
 24166049        8               161     2,921   0       0       0       8
113     0       0       0
 60516050        192             683     6,046   0       0       0       42
576     0       0       0
 23166050        28              231     5,486   0       0       0       23
418     0       0       0
 75746051        192             683     6,046   0       0       0       42
576     0       0       0
 60496051        35              371     8,271   0       0       0       31
535     0       0       0
 18486052        721             822     10,513  0       0       0       399
```

```
   7,081   0       0       0
    27407346        653             950     12,892  0       0       0       413
   6,274   0       0       0
    27167346        606             1,319   17,219  0       0       0       566
   11,675  0       0       0
    22187371        1,440           1,330   23,757  0       0       0
1,463   25,772  0       0       0
    73767372        1,576           1,470   24,173  0       0       0
1,585   26,209  0       0       0
    73777376        1,512           1,404   24,213  0       0       0
1,502   26,205  0       0       0
    21827377        1,512           1,404   24,213  0       0       0
1,502   26,205  0       0       0
    23167474        347             655     7,083   0       0       0       919
   10,509  0       0       0
    21747476        109             607     8,471   0       0       0       872
   11,077  0       0       0
    21707476        0               341     7,409   0       0       0       381
   10,520  0       0       0
    74797478        60              556     8,795   0       0       0       549
   5,342   0       0       0
    23807482        8               6       208     0       0       0       6
   4,654   0       0       0
    24827484        0               0       87      0       0       0       0
   4,558   0       0       0
    95397486        545             1,163   16,981  0       0       0       518
   10,185  0       0       0
    24787486        472             860     17,818  0       0       0       420
   8,441   0       0       0
    26107570        533             1,074   14,919  0       0       0       593
   11,981  0       0       0
    25967570        388             723     13,832  0       0       0       212
   5,730   0       0       0
    25947572        477             483     7,025   0       0       0       781
   11,838  0       0       0
    24167572        351             316     3,685   0       0       0       406
   7,162   0       0       0
    60517574        35              371     8,271   0       0       0       31
   535     0       0       0
    22707574        168             609     5,324   0       0       0       12
   375     0       0       0
    26347576        416             795     14,591  0       0       0       280
   6,442   0       0       0
    26767576        560             1,130   14,870  0       0       0       633
   11,875  0       0       0
    27507578        416             795     14,591  0       0       0       280
   6,442   0       0       0
    27667578        560             1,130   14,870  0       0       0       633
   11,875  0       0       0
    27927580        24              274     4,235   0       0       0       31
   618     0       0       0
    27707580        22              22      5,751   0       0       0       21
   3,286   0       0       0
    27067588        599             912     16,171  0       0       0       598
```

```
   13,332  0       0       0
    27207588        291             335     8,768   0       0       0       319
   7,193   0       0       0
    90147596        1,423           1,259   22,308  0       0       0
1,370   23,851  0       0       0
    20447616        917             787     14,788  0       0       0       730
   13,086  0       0       0
    65027618        127             100     2,751   0       0       0       323
   4,268   0       0       0
    13807632        560             731     10,997  0       0       0       794
   12,893  0       0       0
    20867636        1,097           1,352   19,161  0       0       0
1,597   21,521  0       0       0
    100567636       1,009           1,120   17,795  0       0       0
1,485   23,580  0       0       0
    20587638        498             322     7,609   0       0       0       845
   13,850  0       0       0
    24067638        1,004           824     14,331  0       0       0
1,215   16,475  0       0       0
    14067640        160             235     4,148   0       0       0       105
   2,236   0       0       0
    19567644        733             1,014   12,244  0       0       0       596
   8,882   0       0       0
    60187648        162             191     1,792   0       0       0       374
   3,577   0       0       0
    13067656        232             397     5,294   0       0       0       181
   3,143   0       0       0
    60167672        587             28      613     0       0       0       81
   2,300   0       0       0
    22807678        996             1,199   20,523  0       0       0       896
   16,925  0       0       0
    25467678        942             985     19,173  0       0       0       873
   16,106  0       0       0
    21027906        0               417     3,901   0       0       0       630
   5,616   0       0       0
    18667906        0               215     3,552   0       0       0       223
   6,873   0       0       0
    16967908        12              417     4,184   0       0       0       627
   5,795   0       0       0
    79097908        13              219     3,474   0       0       0       227
   6,927   0       0       0
    18547936        270             639     8,604   0       0       0       909
   11,976  0       0       0
    15027944        975             907     17,611  0       0       0       943
   19,540  0       0       0
    26389005        470             542     13,229  0       0       0       514
   11,021  0       0       0
    25769005        740             1,009   17,761  0       0       0       739
   14,852  0       0       0
    22489009        433             582     10,863  0       0       0       347
   7,773   0       0       0
    20169014        1,423           1,259   21,421  0       0       0
1,366   23,115  0       0       0
    20129015        765             882     13,945  0       0       0
```

```
1,266   20,779  0       0       0
    20669016        844             1,053   15,184  0       0       0
1,445   18,498  0       0       0
    23929500        1,281           1,333   18,562  0       0       0       118
   1,846   0       0       0
    95019500        0               0       2,850   0       0       0       312
   6,962   0       0       0
    95029501        0               0       2,850   0       0       0       312
   6,962   0       0       0
    20889502        0               49      3,375   0       0       0       312
   7,418   0       0       0
    20709503        1,493           1,604   24,741  0       0       0
2,853   35,795  0       0       0
    100589509       1,177           1,524   19,930  0       0       0
1,671   21,795  0       0       0
    20869509        1,044           1,174   18,470  0       0       0
1,445   22,509  0       0       0
    19969519        1,627           1,480   23,919  0       0       0
1,571   25,468  0       0       0
    17449525        388             613     9,899   0       0       0       906
   12,975  0       0       0
    23169527        1,263           1,174   17,787  0       0       0       906
   13,475  0       0       0
    22709527        1,328           911     16,862  0       0       0       632
   7,410   0       0       0
    25929539        545             1,163   16,981  0       0       0       518
   10,185  0       0       0
    74869539        472             868     17,950  0       0       0       420
   8,501   0       0       0
    95529551        0               441     2,915   0       0       0       228
   1,244   0       0       0
    13169552        1,051           1,766   22,069  0       0       0
1,378   17,417  0       0       0
    12509552        1,168           1,756   26,136  0       0       0
1,585   23,808  0       0       0
    130010001       351             480     6,902   0       0       0       337
   4,894   0       0       0
    149810008       808             1,153   16,147  0       0       0       974
   13,377  0       0       0
    1015410024      557             620     7,690   0       0       0       571
   5,319   0       0       0
    765610032       193             355     4,983   0       0       0       153
   2,937   0       0       0
    763610056       1,097           1,352   19,161  0       0       0
1,597   21,521  0       0       0
    209610056       988             1,116   17,764  0       0       0
1,496   23,836  0       0       0
    203810058       1,236           1,562   19,883  0       0       0
1,710   21,697  0       0       0
    950910058       1,065           1,198   18,927  0       0       0
1,455   22,496  0       0       0
    133210124       631             584     14,122  0       0       0       595
   15,674  0       0       0
    139410126       1,021           939     18,293  0       0       0       986
```

```
   20,383  0       0       0
    135810154       530             594     7,551   0       0       0       540
   5,146   0       0       0
    190210169       77              68      1,597   0       0       0       142
   3,577   0       0       0
    761610173       868             747     13,475  0       0       0       690
   11,891  0       0       0
    21482108        0               0       0       0       0       0       727
   782     0       0       0
    21062112        0               0       0       0       0       0
2,250   2,154   0       0       0
    21402130        0               0       0       0       0       0
1,428   1,547   0       0       0
    103022140       0               0       0       0       0       0
1,694   1,819   0       0       0
    21082148        0               0       0       0       0       0       770
   872     0       0       0
    123112306       0               0       0       0       0       0
2,627   2,459   0       0       0
    123069500       0               0       0       0       0       0       91
   90      0       0       0
    211210301       0               0       0       0       0       0
2,809   2,828   0       0       0
    1130210302      0               0       0       0       0       0
1,694   1,819   0       0       0
    1030111301      0               0       0       0       0       0
2,809   2,828   0       0       0
    1230211302      0               0       0       0       0       0
1,694   1,819   0       0       0
    1130112301      0               0       0       0       0       0
2,809   2,828   0       0       0
    1230412302      0               0       0       0       0       0
1,694   1,819   0       0       0
    1230112303      0               0       0       0       0       0
2,809   2,828   0       0       0
    1230812304      0               0       0       0       0       0
1,422   1,489   0       0       0
    1230612304      0               0       0       0       0       0       272
   329     0       0       0
    1230612305      0               0       0       0       0       0       572
   766     0       0       0
    1230312305      0               0       0       0       0       0       548
   646     0       0       0
    950012306       0               0       0       0       0       0       386
   457     0       0       0
    1230512306      0               0       0       0       0       0       0
   0       0       0       0
    1231012306      0               0       0       0       0       0       549
   728     0       0       0
    1230312307      0               0       0       0       0       0
2,262   2,181   0       0       0
    1231212308      0               0       0       0       0       0
1,422   1,489   0       0       0
    1230512309      0               0       0       0       0       0
```

1,119 1,413 0 0 0
1231212310 0 0 0 0 0 0 89
80 0 0 0
1230712311 0 0 0 0 0
2,262 2,181 0 0 0
1230912311 0 0 0 0 0 0 365
278 0 0 0
231012312 0 0 0 0 0
1,511 1,570 0 0 0

Combined Local Accident Rate Subsection

Link Name	Observed Accidents	First Observed Accident Year	Local Severity Ratio	Split Year

[Section 5] Input Data - Parameter File

COBALT Parameter File
Version 2,016.10

Cost Base Year
2010

Appraisal Period
60

Discount Rate

Years from Current Year	Discount Rate (%)
30	3.50
75	3.00
125	2.50

Cost per Casualty

Severity	Cost
Fatal	1,635,937
Serious	183,834
Slight	14,172

Cost per Accident

Severity	Insurance Administration	Damage to Property Urban	Rural	Motorway
Fatal	300	7,822	13,267	16,876
Serious	187	4,192	6,048	14,400
Slight	113	2,473	4,009	7,285
Damage	54	2,473	2,644	2,541

	Police Cost Urban	Rural	Motorway
Fatal	16,951	17,407	17,610
Serious	1,872	2,337	2,468
Slight	484	664	554
Damage	484	20	17

Compound Annual Rates of Growth of Accident Values

Range of Years	Rate of Growth (%p.a.)
2010-2011	1.13
2011-2012	0.51
2012-2013	1.52
2013-2014	2.16
2014-2015	1.66
2015-2016	1.69
2016-2017	1.80
2017-2018	1.73
2018-2019	1.64
2019-2020	1.66
2020-2021	1.77
2021-2022	1.78
2022-2023	1.80
2023-2024	1.91
2024-2025	1.93
2025-2026	1.94
2026-2027	1.96
2027-2028	1.98
2028-2029	1.99
2029-2030	2.01
2030-2031	2.02
2031-2032	2.04
2032-2033	2.05
2033-2034	2.16
2034-2035	2.07
2035-2036	2.08
2036-2040	2.09
2040-2045	2.11
2045-2046	2.24
2046-2050	2.14
2050-2055	2.07
2055-2057	2.09
2057-2059	2.19
2059-2060	2.29
2060-2063	2.30
2063-2065	2.20
2065-2070	2.18
2070-2085	2.17
2085-2110	2.18

Number of Damage Only Accidents per PIA

	Urban	Rural	Motorway
Damage	17.7	7.8	7.6

Link Only Accident Proportions

Base Year

2009

Road Type	Speed Limit (mph)	Accident Proportions		
		Fatal	Serious	Slight
1	50	0.019	0.104	0.877
1	60	0.019	0.104	0.877
1	70	0.019	0.104	0.877
1	80	0.019	0.104	0.877

2	50	0.019	0.104	0.877
2	60	0.019	0.104	0.877
2	70	0.019	0.104	0.877
2	80	0.019	0.104	0.877
3	50	0.019	0.104	0.877
3	60	0.019	0.104	0.877
3	70	0.019	0.104	0.877
3	80	0.019	0.104	0.877
4	30	0.014	0.145	0.841
4	40	0.014	0.145	0.841
4	50	0.046	0.206	0.748
4	60	0.046	0.206	0.748
4	70	0.046	0.206	0.748
4	80	0.046	0.206	0.748
5	30	0.014	0.145	0.841
5	40	0.014	0.145	0.841
5	50	0.046	0.206	0.748
5	60	0.046	0.206	0.748
5	70	0.046	0.206	0.748
5	80	0.046	0.206	0.748
6	30	0.014	0.145	0.841
6	40	0.014	0.145	0.841
6	50	0.046	0.206	0.748
6	60	0.046	0.206	0.748
6	70	0.046	0.206	0.748
6	80	0.046	0.206	0.748
7	30	0.014	0.145	0.841
7	40	0.014	0.145	0.841
7	50	0.046	0.206	0.748
7	60	0.046	0.206	0.748
7	70	0.046	0.206	0.748
7	80	0.046	0.206	0.748
8	30	0.014	0.145	0.841
8	40	0.014	0.145	0.841
8	50	0.046	0.206	0.748
8	60	0.046	0.206	0.748
8	70	0.046	0.206	0.748
8	80	0.046	0.206	0.748
9	30	0.010	0.145	0.846
9	40	0.010	0.145	0.846
9	50	0.026	0.193	0.780
9	60	0.026	0.193	0.780
9	70	0.026	0.193	0.780
9	80	0.026	0.193	0.780
10	30	0.017	0.135	0.849
10	40	0.017	0.135	0.849
10	50	0.028	0.135	0.837
10	60	0.028	0.135	0.837
10	70	0.028	0.135	0.837
10	80	0.028	0.135	0.837
11	30	0.017	0.135	0.849
11	40	0.017	0.135	0.849
11	50	0.028	0.135	0.837
11	60	0.028	0.135	0.837

11	70	0.028	0.135	0.837
11	80	0.028	0.135	0.837
12	30	0.017	0.135	0.849
12	40	0.017	0.135	0.849
12	50	0.028	0.135	0.837
12	60	0.028	0.135	0.837
12	70	0.028	0.135	0.837
12	80	0.028	0.135	0.837
13	30	0.017	0.135	0.849
13	40	0.017	0.135	0.849
13	50	0.028	0.135	0.837
13	60	0.028	0.135	0.837
13	70	0.028	0.135	0.837
13	80	0.028	0.135	0.837
14	30	0.017	0.135	0.849
14	40	0.017	0.135	0.849
14	50	0.028	0.135	0.837
14	60	0.028	0.135	0.837
14	70	0.028	0.135	0.837
14	80	0.028	0.135	0.837
15	30	0.017	0.135	0.849
15	40	0.017	0.135	0.849
15	50	0.028	0.135	0.837
15	60	0.028	0.135	0.837
15	70	0.028	0.135	0.837
15	80	0.028	0.135	0.837

Link and Junction Combined Accident Proportions

Base Year

2009

Road Type	Speed Limit (mph)	Accident Proportions Fatal	Serious	Slight
1	50	0.018	0.101	0.882
1	60	0.018	0.101	0.882
1	70	0.018	0.101	0.882
1	80	0.018	0.101	0.882
2	50	0.018	0.101	0.882
2	60	0.018	0.101	0.882
2	70	0.018	0.101	0.882
2	80	0.018	0.101	0.882
3	50	0.018	0.101	0.882
3	60	0.018	0.101	0.882
3	70	0.018	0.101	0.882
3	80	0.018	0.101	0.882
4	30	0.008	0.122	0.869
4	40	0.008	0.122	0.869
4	50	0.034	0.187	0.779
4	60	0.034	0.187	0.779
4	70	0.034	0.187	0.779
4	80	0.034	0.187	0.779
5	30	0.008	0.122	0.869
5	40	0.008	0.122	0.869
5	50	0.034	0.187	0.779
5	60	0.034	0.187	0.779

5	70	0.034	0.187	0.779
5	80	0.034	0.187	0.779
6	30	0.008	0.122	0.869
6	40	0.008	0.122	0.869
6	50	0.034	0.187	0.779
6	60	0.034	0.187	0.779
6	70	0.034	0.187	0.779
6	80	0.034	0.187	0.779
7	30	0.008	0.122	0.869
7	40	0.008	0.122	0.869
7	50	0.034	0.187	0.779
7	60	0.034	0.187	0.779
7	70	0.034	0.187	0.779
7	80	0.034	0.187	0.779
8	30	0.008	0.122	0.869
8	40	0.008	0.122	0.869
8	50	0.034	0.187	0.779
8	60	0.034	0.187	0.779
8	70	0.034	0.187	0.779
8	80	0.034	0.187	0.779
9	30	0.007	0.126	0.867
9	40	0.007	0.126	0.867
9	50	0.024	0.187	0.789
9	60	0.024	0.187	0.789
9	70	0.024	0.187	0.789
9	80	0.024	0.187	0.789
10	30	0.009	0.104	0.887
10	40	0.009	0.104	0.887
10	50	0.023	0.127	0.850
10	60	0.023	0.127	0.850
10	70	0.023	0.127	0.850
10	80	0.023	0.127	0.850
11	30	0.009	0.104	0.887
11	40	0.009	0.104	0.887
11	50	0.023	0.127	0.850
11	60	0.023	0.127	0.850
11	70	0.023	0.127	0.850
11	80	0.023	0.127	0.850
12	30	0.009	0.104	0.887
12	40	0.009	0.104	0.887
12	50	0.023	0.127	0.850
12	60	0.023	0.127	0.850
12	70	0.023	0.127	0.850
12	80	0.023	0.127	0.850
13	30	0.009	0.104	0.887
13	40	0.009	0.104	0.887
13	50	0.023	0.127	0.850
13	60	0.023	0.127	0.850
13	70	0.023	0.127	0.850
13	80	0.023	0.127	0.850
14	30	0.009	0.104	0.887
14	40	0.009	0.104	0.887
14	50	0.023	0.127	0.850
14	60	0.023	0.127	0.850

14	70	0.023	0.127	0.850
14	80	0.023	0.127	0.850
15	30	0.009	0.104	0.887
15	40	0.009	0.104	0.887
15	50	0.023	0.127	0.850
15	60	0.023	0.127	0.850
15	70	0.023	0.127	0.850
15	80	0.023	0.127	0.850

Junction Only Accident Proportions
Base Year
2000

Road Type	Speed Limit (mph)	Accident Proportions Fatal	Serious	Slight
1	50	0.024	0.188	0.787
1	60	0.024	0.188	0.787
1	70	0.024	0.188	0.787
1	80	0.024	0.188	0.787
2	30	0.007	0.124	0.869
2	40	0.007	0.124	0.869
3	50	0.024	0.188	0.787
3	60	0.024	0.188	0.787
3	70	0.024	0.188	0.787
3	80	0.024	0.188	0.787
4	30	0.007	0.124	0.869
4	40	0.007	0.124	0.869
5	50	0.027	0.206	0.766
5	60	0.027	0.206	0.766
5	70	0.027	0.206	0.766
5	80	0.027	0.206	0.766
6	30	0.006	0.116	0.878
6	40	0.006	0.116	0.878
7	50	0.027	0.206	0.766
7	60	0.027	0.206	0.766
7	70	0.027	0.206	0.766
7	80	0.027	0.206	0.766
8	30	0.006	0.116	0.878
8	40	0.006	0.116	0.878
9	50	0.027	0.206	0.766
9	60	0.027	0.206	0.766
9	70	0.027	0.206	0.766
9	80	0.027	0.206	0.766
10	30	0.006	0.116	0.878
10	40	0.006	0.116	0.878
11	50	0.027	0.206	0.766
11	60	0.027	0.206	0.766
11	70	0.027	0.206	0.766
11	80	0.027	0.206	0.766
12	30	0.006	0.116	0.878
12	40	0.006	0.116	0.878
13	50	0.024	0.188	0.787
13	60	0.024	0.188	0.787
13	70	0.024	0.188	0.787
13	80	0.024	0.188	0.787

14	30	0.007	0.124	0.869
14	40	0.007	0.124	0.869
15	50	0.024	0.188	0.787
15	60	0.024	0.188	0.787
15	70	0.024	0.188	0.787
15	80	0.024	0.188	0.787
16	30	0.007	0.124	0.869
16	40	0.007	0.124	0.869
17	50	0.027	0.206	0.766
17	60	0.027	0.206	0.766
17	70	0.027	0.206	0.766
17	80	0.027	0.206	0.766
18	30	0.006	0.116	0.878
18	40	0.006	0.116	0.878
19	50	0.027	0.206	0.766
19	60	0.027	0.206	0.766
19	70	0.027	0.206	0.766
19	80	0.027	0.206	0.766
20	30	0.006	0.116	0.878
20	40	0.006	0.116	0.878
21	50	0.027	0.206	0.766
21	60	0.027	0.206	0.766
21	70	0.027	0.206	0.766
21	80	0.027	0.206	0.766
22	30	0.006	0.116	0.878
22	40	0.006	0.116	0.878
23	50	0.027	0.206	0.766
23	60	0.027	0.206	0.766
23	70	0.027	0.206	0.766
23	80	0.027	0.206	0.766
24	30	0.006	0.116	0.878
24	40	0.006	0.116	0.878
25	50	0.024	0.188	0.787
25	60	0.024	0.188	0.787
25	70	0.024	0.188	0.787
25	80	0.024	0.188	0.787
26	30	0.007	0.124	0.869
26	40	0.007	0.124	0.869
27	50	0.024	0.188	0.787
27	60	0.024	0.188	0.787
27	70	0.024	0.188	0.787
27	80	0.024	0.188	0.787
28	30	0.007	0.124	0.869
28	40	0.007	0.124	0.869
29	50	0.027	0.206	0.766
29	60	0.027	0.206	0.766
29	70	0.027	0.206	0.766
29	80	0.027	0.206	0.766
30	30	0.006	0.116	0.878
30	40	0.006	0.116	0.878
31	50	0.027	0.206	0.766
31	60	0.027	0.206	0.766
31	70	0.027	0.206	0.766
31	80	0.027	0.206	0.766

32	30	0.006	0.116	0.878
32	40	0.006	0.116	0.878
33	50	0.027	0.206	0.766
33	60	0.027	0.206	0.766
33	70	0.027	0.206	0.766
33	80	0.027	0.206	0.766
34	30	0.006	0.116	0.878
34	40	0.006	0.116	0.878
35	50	0.027	0.206	0.766
35	60	0.027	0.206	0.766
35	70	0.027	0.206	0.766
35	80	0.027	0.206	0.766
36	30	0.006	0.116	0.878
36	40	0.006	0.116	0.878
37	50	0.009	0.117	0.874
37	60	0.009	0.117	0.874
37	70	0.009	0.117	0.874
37	80	0.009	0.117	0.874
38	30	0.006	0.107	0.887
38	40	0.006	0.107	0.887
39	50	0.009	0.117	0.874
39	60	0.009	0.117	0.874
39	70	0.009	0.117	0.874
39	80	0.009	0.117	0.874
40	30	0.006	0.107	0.887
40	40	0.006	0.107	0.887
41	50	0.009	0.115	0.876
41	60	0.009	0.115	0.876
41	70	0.009	0.115	0.876
41	80	0.009	0.115	0.876
42	30	0.006	0.107	0.887
42	40	0.006	0.107	0.887
43	50	0.009	0.115	0.876
43	60	0.009	0.115	0.876
43	70	0.009	0.115	0.876
43	80	0.009	0.115	0.876
44	30	0.006	0.107	0.887
44	40	0.006	0.107	0.887
45	50	0.009	0.115	0.876
45	60	0.009	0.115	0.876
45	70	0.009	0.115	0.876
45	80	0.009	0.115	0.876
46	30	0.006	0.107	0.887
46	40	0.006	0.107	0.887
47	50	0.009	0.115	0.876
47	60	0.009	0.115	0.876
47	70	0.009	0.115	0.876
47	80	0.009	0.115	0.876
48	30	0.006	0.107	0.887
48	40	0.006	0.107	0.887
49	50	0.006	0.091	0.903
49	60	0.006	0.091	0.903
49	70	0.006	0.091	0.903
49	80	0.006	0.091	0.903

50	30	0.003	0.075	0.923
50	40	0.003	0.075	0.923
51	50	0.006	0.091	0.903
51	60	0.006	0.091	0.903
51	70	0.006	0.091	0.903
51	80	0.006	0.091	0.903
52	30	0.003	0.075	0.923
52	40	0.003	0.075	0.923
53	50	0.006	0.091	0.903
53	60	0.006	0.091	0.903
53	70	0.006	0.091	0.903
53	80	0.006	0.091	0.903
54	30	0.003	0.075	0.923
54	40	0.003	0.075	0.923
55	50	0.006	0.091	0.903
55	60	0.006	0.091	0.903
55	70	0.006	0.091	0.903
55	80	0.006	0.091	0.903
56	30	0.003	0.075	0.923
56	40	0.003	0.075	0.923
57	50	0.006	0.091	0.903
57	60	0.006	0.091	0.903
57	70	0.006	0.091	0.903
57	80	0.006	0.091	0.903
58	30	0.003	0.075	0.923
58	40	0.003	0.075	0.923
59	50	0.006	0.091	0.903
59	60	0.006	0.091	0.903
59	70	0.006	0.091	0.903
59	80	0.006	0.091	0.903
60	30	0.003	0.075	0.923
60	40	0.003	0.075	0.923
61	50	0.006	0.091	0.903
61	60	0.006	0.091	0.903
61	70	0.006	0.091	0.903
61	80	0.006	0.091	0.903
62	30	0.003	0.075	0.923
62	40	0.003	0.075	0.923
63	50	0.006	0.091	0.903
63	60	0.006	0.091	0.903
63	70	0.006	0.091	0.903
63	80	0.006	0.091	0.903
64	30	0.003	0.075	0.923
64	40	0.003	0.075	0.923
65	50	0.006	0.091	0.903
65	60	0.006	0.091	0.903
65	70	0.006	0.091	0.903
65	80	0.006	0.091	0.903
66	30	0.003	0.075	0.923
66	40	0.003	0.075	0.923
67	50	0.006	0.091	0.903
67	60	0.006	0.091	0.903
67	70	0.006	0.091	0.903
67	80	0.006	0.091	0.903

68	30	0.003	0.075	0.923
68	40	0.003	0.075	0.923
69	50	0.006	0.091	0.903
69	60	0.006	0.091	0.903
69	70	0.006	0.091	0.903
69	80	0.006	0.091	0.903
70	30	0.003	0.075	0.923
70	40	0.003	0.075	0.923
71	50	0.006	0.091	0.903
71	60	0.006	0.091	0.903
71	70	0.006	0.091	0.903
71	80	0.006	0.091	0.903
72	30	0.003	0.075	0.923
72	40	0.003	0.075	0.923
73	50	0.006	0.091	0.903
73	60	0.006	0.091	0.903
73	70	0.006	0.091	0.903
73	80	0.006	0.091	0.903
74	30	0.003	0.087	0.910
74	40	0.003	0.087	0.910
75	50	0.006	0.091	0.903
75	60	0.006	0.091	0.903
75	70	0.006	0.091	0.903
75	80	0.006	0.091	0.903
76	30	0.003	0.087	0.910
76	40	0.003	0.087	0.910
77	50	0.006	0.091	0.903
77	60	0.006	0.091	0.903
77	70	0.006	0.091	0.903
77	80	0.006	0.091	0.903
78	30	0.003	0.087	0.910
78	40	0.003	0.087	0.910
79	50	0.006	0.091	0.903
79	60	0.006	0.091	0.903
79	70	0.006	0.091	0.903
79	80	0.006	0.091	0.903
80	30	0.003	0.087	0.910
80	40	0.003	0.087	0.910
81	50	0.006	0.091	0.903
81	60	0.006	0.091	0.903
81	70	0.006	0.091	0.903
81	80	0.006	0.091	0.903
82	30	0.003	0.087	0.910
82	40	0.003	0.087	0.910
83	50	0.006	0.091	0.903
83	60	0.006	0.091	0.903
83	70	0.006	0.091	0.903
83	80	0.006	0.091	0.903
84	30	0.003	0.087	0.910
84	40	0.003	0.087	0.910
85	50	0.004	0.062	0.934
85	60	0.004	0.062	0.934
85	70	0.004	0.062	0.934
85	80	0.004	0.062	0.934

86	30	0.003	0.064	0.933
86	40	0.003	0.064	0.933
87	50	0.004	0.062	0.934
87	60	0.004	0.062	0.934
87	70	0.004	0.062	0.934
87	80	0.004	0.062	0.934
88	30	0.003	0.064	0.933
88	40	0.003	0.064	0.933
89	50	0.004	0.062	0.934
89	60	0.004	0.062	0.934
89	70	0.004	0.062	0.934
89	80	0.004	0.062	0.934
90	30	0.003	0.064	0.933
90	40	0.003	0.064	0.933
91	50	0.004	0.062	0.934
91	60	0.004	0.062	0.934
91	70	0.004	0.062	0.934
91	80	0.004	0.062	0.934
92	30	0.003	0.064	0.933
92	40	0.003	0.064	0.933
93	50	0.004	0.062	0.934
93	60	0.004	0.062	0.934
93	70	0.004	0.062	0.934
93	80	0.004	0.062	0.934
94	30	0.003	0.064	0.933
94	40	0.003	0.064	0.933
95	50	0.004	0.062	0.934
95	60	0.004	0.062	0.934
95	70	0.004	0.062	0.934
95	80	0.004	0.062	0.934
96	30	0.003	0.064	0.933
96	40	0.003	0.064	0.933

Link Only Accident Rates and Change Factors

Base Year

2009

Road Type	Speed Limit (mph)	Accident Rate	Beta Factor
1	50	0.063	0.956
1	60	0.063	0.956
1	70	0.063	0.956
2	50	0.063	0.956
2	60	0.063	0.956
2	70	0.063	0.956
3	50	0.075	0.956
3	60	0.075	0.956
3	70	0.075	0.956
4	30	0.175	0.964
4	40	0.175	0.964
4	50	0.143	0.958
4	60	0.143	0.958
4	70	0.143	0.958
4	80	0.143	0.958
5	30	0.175	0.964

5	40	0.175	0.964
5	50	0.143	0.958
5	60	0.143	0.958
5	70	0.143	0.958
5	80	0.143	0.958
6	30	0.206	0.964
6	40	0.206	0.964
6	50	0.082	0.958
6	60	0.082	0.958
6	70	0.082	0.958
6	80	0.082	0.958
7	30	0.206	0.964
7	40	0.206	0.964
7	50	0.082	0.958
7	60	0.082	0.958
7	70	0.082	0.958
7	80	0.082	0.958
8	30	0.206	0.964
8	40	0.206	0.964
8	50	0.143	0.958
8	60	0.143	0.958
8	70	0.143	0.958
8	80	0.143	0.958
9	30	0.195	0.957
9	40	0.195	0.957
9	50	0.163	0.935
9	60	0.163	0.935
9	70	0.163	0.935
9	80	0.163	0.935
10	30	0.148	0.965
10	40	0.148	0.965
10	50	0.077	0.960
10	60	0.077	0.960
10	70	0.077	0.960
10	80	0.077	0.960
11	30	0.154	0.965
11	40	0.154	0.965
11	50	0.059	0.960
11	60	0.059	0.960
11	70	0.059	0.960
11	80	0.059	0.960
12	30	0.154	0.965
12	40	0.154	0.965
12	50	0.077	0.960
12	60	0.077	0.960
12	70	0.077	0.960
12	80	0.077	0.960
13	30	0.184	0.949
13	40	0.184	0.949
13	50	0.101	0.956
13	60	0.101	0.956
13	70	0.101	0.956
13	80	0.101	0.956
14	30	0.184	0.949

14	40	0.184	0.949
14	50	0.101	0.956
14	60	0.101	0.956
14	70	0.101	0.956
14	80	0.101	0.956
15	30	0.184	0.949
15	40	0.184	0.949
15	50	0.101	0.956
15	60	0.101	0.956
15	70	0.101	0.956
15	80	0.101	0.956

Link and Junction Combined Accident Rates and Change Factors
Base Year
2009

Road Type	Speed Limit (mph)	Accident Rate	Beta Factor
1	50	0.080	0.956
1	60	0.080	0.956
1	70	0.080	0.956
2	50	0.067	0.956
2	60	0.067	0.956
2	70	0.067	0.956
3	50	0.079	0.956
3	60	0.079	0.956
3	70	0.079	0.956
4	30	0.532	0.959
4	40	0.532	0.959
4	50	0.244	0.955
4	60	0.244	0.955
4	70	0.244	0.955
4	80	0.244	0.955
5	30	0.532	0.959
5	40	0.532	0.959
5	50	0.244	0.955
5	60	0.244	0.955
5	70	0.244	0.955
5	80	0.244	0.955
6	30	0.863	0.959
6	40	0.863	0.959
6	50	0.163	0.955
6	60	0.163	0.955
6	70	0.163	0.955
6	80	0.163	0.955
7	30	0.863	0.959
7	40	0.863	0.959
7	50	0.163	0.955
7	60	0.163	0.955
7	70	0.163	0.955
7	80	0.163	0.955
8	30	0.863	0.959
8	40	0.863	0.959
8	50	0.244	0.955
8	60	0.244	0.955

8	70	0.244	0.955
8	80	0.244	0.955
9	30	0.559	0.951
9	40	0.559	0.951
9	50	0.233	0.933
9	60	0.233	0.933
9	70	0.233	0.933
9	80	0.233	0.933
10	30	0.553	0.967
10	40	0.553	0.967
10	50	0.107	0.956
10	60	0.107	0.956
10	70	0.107	0.956
10	80	0.107	0.956
11	30	0.599	0.967
11	40	0.599	0.967
11	50	0.072	0.956
11	60	0.072	0.956
11	70	0.072	0.956
11	80	0.072	0.956
12	30	0.599	0.967
12	40	0.599	0.967
12	50	0.107	0.956
12	60	0.107	0.956
12	70	0.107	0.956
12	80	0.107	0.956
13	30	0.620	0.951
13	40	0.620	0.951
13	50	0.123	0.946
13	60	0.123	0.946
13	70	0.123	0.946
13	80	0.123	0.946
14	30	0.620	0.951
14	40	0.620	0.951
14	50	0.123	0.946
14	60	0.123	0.946
14	70	0.123	0.946
14	80	0.123	0.946
15	30	0.620	0.951
15	40	0.620	0.951
15	50	0.123	0.946
15	60	0.123	0.946
15	70	0.123	0.946
15	80	0.123	0.946

Link Only and Link and Junction Combined Accident Beta Factor Changes over Time

Range of Years	Change to Beta Factor
2004-2019	1.000
2020-2029	0.500
2030-2039	0.250
2040-2153	0.000

Link Only Casualty Rates

Base Year
2009

Road Type	Speed Limit (mph)	Casualties per P.I.A. Fatal	Serious	Slight
1	50	0.021	0.129	1.464
1	60	0.021	0.129	1.464
1	70	0.021	0.129	1.464
2	50	0.021	0.129	1.464
2	60	0.021	0.129	1.464
2	70	0.021	0.129	1.464
3	50	0.021	0.129	1.464
3	60	0.021	0.129	1.464
3	70	0.021	0.129	1.464
4	30	0.015	0.162	1.154
4	40	0.015	0.162	1.154
4	50	0.052	0.274	1.251
4	60	0.052	0.274	1.251
4	70	0.052	0.274	1.251
4	80	0.052	0.274	1.251
5	30	0.015	0.162	1.154
5	40	0.015	0.162	1.154
5	50	0.052	0.274	1.251
5	60	0.052	0.274	1.251
5	70	0.052	0.274	1.251
5	80	0.052	0.274	1.251
6	30	0.015	0.162	1.154
6	40	0.015	0.162	1.154
6	50	0.052	0.274	1.251
6	60	0.052	0.274	1.251
6	70	0.052	0.274	1.251
6	80	0.052	0.274	1.251
7	30	0.015	0.162	1.154
7	40	0.015	0.162	1.154
7	50	0.052	0.274	1.251
7	60	0.052	0.274	1.251
7	70	0.052	0.274	1.251
7	80	0.052	0.274	1.251
8	30	0.015	0.162	1.154
8	40	0.015	0.162	1.154
8	50	0.052	0.274	1.251
8	60	0.052	0.274	1.251
8	70	0.052	0.274	1.251
8	80	0.052	0.274	1.251
9	30	0.010	0.156	1.071
9	40	0.010	0.156	1.071
9	50	0.028	0.230	1.178
9	60	0.028	0.230	1.178
9	70	0.028	0.230	1.178
9	80	0.028	0.230	1.178
10	30	0.018	0.148	1.183
10	40	0.018	0.148	1.183
10	50	0.031	0.161	1.328
10	60	0.031	0.161	1.328
10	70	0.031	0.161	1.328

10	80	0.031	0.161	1.328
11	30	0.018	0.148	1.183
11	40	0.018	0.148	1.183
11	50	0.031	0.161	1.328
11	60	0.031	0.161	1.328
11	70	0.031	0.161	1.328
11	80	0.031	0.161	1.328
12	30	0.018	0.148	1.183
12	40	0.018	0.148	1.183
12	50	0.031	0.161	1.328
12	60	0.031	0.161	1.328
12	70	0.031	0.161	1.328
12	80	0.031	0.161	1.328
13	30	0.018	0.148	1.183
13	40	0.018	0.148	1.183
13	50	0.031	0.161	1.328
13	60	0.031	0.161	1.328
13	70	0.031	0.161	1.328
13	80	0.031	0.161	1.328
14	30	0.018	0.148	1.183
14	40	0.018	0.148	1.183
14	50	0.031	0.161	1.328
14	60	0.031	0.161	1.328
14	70	0.031	0.161	1.328
14	80	0.031	0.161	1.328
15	30	0.018	0.148	1.183
15	40	0.018	0.148	1.183
15	50	0.031	0.161	1.328
15	60	0.031	0.161	1.328
15	70	0.031	0.161	1.328
15	80	0.031	0.161	1.328

Link and Junction Combined Casualty Rates
Base Year
2009

Road Type	Speed Limit (mph)	Casualties per P.I.A. Fatal	Serious	Slight
1	50	0.020	0.123	1.455
1	60	0.020	0.123	1.455
1	70	0.020	0.123	1.455
2	50	0.020	0.123	1.455
2	60	0.020	0.123	1.455
2	70	0.020	0.123	1.455
3	50	0.020	0.123	1.455
3	60	0.020	0.123	1.455
3	70	0.020	0.123	1.455
4	30	0.009	0.132	1.176
4	40	0.009	0.132	1.176
4	50	0.038	0.238	1.300
4	60	0.038	0.238	1.300
4	70	0.038	0.238	1.300
4	80	0.038	0.238	1.300
5	30	0.009	0.132	1.176
5	40	0.009	0.132	1.176

5	50	0.038	0.238	1.300
5	60	0.038	0.238	1.300
5	70	0.038	0.238	1.300
5	80	0.038	0.238	1.300
6	30	0.009	0.132	1.176
6	40	0.009	0.132	1.176
6	50	0.038	0.238	1.300
6	60	0.038	0.238	1.300
6	70	0.038	0.238	1.300
6	80	0.038	0.238	1.300
7	30	0.009	0.132	1.176
7	40	0.009	0.132	1.176
7	50	0.038	0.238	1.300
7	60	0.038	0.238	1.300
7	70	0.038	0.238	1.300
7	80	0.038	0.238	1.300
8	30	0.009	0.132	1.176
8	40	0.009	0.132	1.176
8	50	0.038	0.238	1.300
8	60	0.038	0.238	1.300
8	70	0.038	0.238	1.300
8	80	0.038	0.238	1.300
9	30	0.007	0.134	1.132
9	40	0.007	0.134	1.132
9	50	0.026	0.222	1.218
9	60	0.026	0.222	1.218
9	70	0.026	0.222	1.218
9	80	0.026	0.222	1.218
10	30	0.009	0.112	1.238
10	40	0.009	0.112	1.238
10	50	0.025	0.151	1.297
10	60	0.025	0.151	1.297
10	70	0.025	0.151	1.297
10	80	0.025	0.151	1.297
11	30	0.009	0.112	1.238
11	40	0.009	0.112	1.238
11	50	0.025	0.151	1.297
11	60	0.025	0.151	1.297
11	70	0.025	0.151	1.297
11	80	0.025	0.151	1.297
12	30	0.009	0.112	1.238
12	40	0.009	0.112	1.238
12	50	0.025	0.151	1.297
12	60	0.025	0.151	1.297
12	70	0.025	0.151	1.297
12	80	0.025	0.151	1.297
13	30	0.009	0.112	1.238
13	40	0.009	0.112	1.238
13	50	0.025	0.151	1.297
13	60	0.025	0.151	1.297
13	70	0.025	0.151	1.297
13	80	0.025	0.151	1.297
14	30	0.009	0.112	1.238
14	40	0.009	0.112	1.238

14	50	0.025	0.151	1.297
14	60	0.025	0.151	1.297
14	70	0.025	0.151	1.297
14	80	0.025	0.151	1.297
15	30	0.009	0.112	1.238
15	40	0.009	0.112	1.238
15	50	0.025	0.151	1.297
15	60	0.025	0.151	1.297
15	70	0.025	0.151	1.297
15	80	0.025	0.151	1.297

Link Only Casualty Change Factors

Base Year

2009

Road Type	Speed Limit (mph)	Beta Factor Fatal	Serious	Slight
1	50	0.978	0.979	1.002
1	60	0.978	0.979	1.002
1	70	0.978	0.979	1.002
2	50	0.978	0.979	1.002
2	60	0.978	0.979	1.002
2	70	0.978	0.979	1.002
3	50	0.978	0.979	1.002
3	60	0.978	0.979	1.002
3	70	0.978	0.979	1.002
4	30	0.971	0.995	1.001
4	40	0.971	0.995	1.001
4	50	0.979	0.983	1.002
4	60	0.979	0.983	1.002
4	70	0.979	0.983	1.002
4	80	0.979	0.983	1.002
5	30	0.971	0.995	1.001
5	40	0.971	0.995	1.001
5	50	0.979	0.983	1.002
5	60	0.979	0.983	1.002
5	70	0.979	0.983	1.002
5	80	0.979	0.983	1.002
6	30	0.971	0.995	1.001
6	40	0.971	0.995	1.001
6	50	0.979	0.983	1.002
6	60	0.979	0.983	1.002
6	70	0.979	0.983	1.002
6	80	0.979	0.983	1.002
7	30	0.971	0.995	1.001
7	40	0.971	0.995	1.001
7	50	0.979	0.983	1.002
7	60	0.979	0.983	1.002
7	70	0.979	0.983	1.002
7	80	0.979	0.983	1.002
8	30	0.971	0.995	1.001
8	40	0.971	0.995	1.001
8	50	0.979	0.983	1.002
8	60	0.979	0.983	1.002
8	70	0.979	0.983	1.002

8	80	0.979	0.983	1.002
9	30	0.985	0.997	1.001
9	40	0.985	0.997	1.001
9	50	0.987	0.989	0.998
9	60	0.987	0.989	0.998
9	70	0.987	0.989	0.998
9	80	0.987	0.989	0.998
10	30	0.998	0.990	1.002
10	40	0.998	0.990	1.002
10	50	0.984	0.985	0.998
10	60	0.984	0.985	0.998
10	70	0.984	0.985	0.998
10	80	0.984	0.985	0.998
11	30	0.998	0.990	1.002
11	40	0.998	0.990	1.002
11	50	0.984	0.985	0.998
11	60	0.984	0.985	0.998
11	70	0.984	0.985	0.998
11	80	0.984	0.985	0.998
12	30	0.998	0.990	1.002
12	40	0.998	0.990	1.002
12	50	0.984	0.985	0.998
12	60	0.984	0.985	0.998
12	70	0.984	0.985	0.998
12	80	0.984	0.985	0.998
13	30	0.998	0.990	1.002
13	40	0.998	0.990	1.002
13	50	0.984	0.985	0.998
13	60	0.984	0.985	0.998
13	70	0.984	0.985	0.998
13	80	0.984	0.985	0.998
14	30	0.998	0.990	1.002
14	40	0.998	0.990	1.002
14	50	0.984	0.985	0.998
14	60	0.984	0.985	0.998
14	70	0.984	0.985	0.998
14	80	0.984	0.985	0.998
15	30	0.998	0.990	1.002
15	40	0.998	0.990	1.002
15	50	0.984	0.985	0.998
15	60	0.984	0.985	0.998
15	70	0.984	0.985	0.998
15	80	0.984	0.985	0.998

Link and Junction Combined Casualty Change Factors
Base Year
2009

Road Type	Speed Limit (mph)	Beta Factor Fatal	Serious	Slight
1	50	0.978	0.979	1.002
1	60	0.978	0.979	1.002
1	70	0.978	0.979	1.002
2	50	0.978	0.979	1.002
2	60	0.978	0.979	1.002

2	70	0.978	0.979	1.002
3	50	0.978	0.979	1.002
3	60	0.978	0.979	1.002
3	70	0.978	0.979	1.002
4	30	0.971	0.995	1.001
4	40	0.971	0.995	1.001
4	50	0.979	0.983	1.002
4	60	0.979	0.983	1.002
4	70	0.979	0.983	1.002
4	80	0.979	0.983	1.002
5	30	0.971	0.995	1.001
5	40	0.971	0.995	1.001
5	50	0.979	0.983	1.002
5	60	0.979	0.983	1.002
5	70	0.979	0.983	1.002
5	80	0.979	0.983	1.002
6	30	0.971	0.995	1.001
6	40	0.971	0.995	1.001
6	50	0.979	0.983	1.002
6	60	0.979	0.983	1.002
6	70	0.979	0.983	1.002
6	80	0.979	0.983	1.002
7	30	0.971	0.995	1.001
7	40	0.971	0.995	1.001
7	50	0.979	0.983	1.002
7	60	0.979	0.983	1.002
7	70	0.979	0.983	1.002
7	80	0.979	0.983	1.002
8	30	0.971	0.995	1.001
8	40	0.971	0.995	1.001
8	50	0.979	0.983	1.002
8	60	0.979	0.983	1.002
8	70	0.979	0.983	1.002
8	80	0.979	0.983	1.002
9	30	0.985	0.997	1.001
9	40	0.985	0.997	1.001
9	50	0.987	0.989	0.998
9	60	0.987	0.989	0.998
9	70	0.987	0.989	0.998
9	80	0.987	0.989	0.998
10	30	0.998	0.990	1.002
10	40	0.998	0.990	1.002
10	50	0.984	0.985	0.998
10	60	0.984	0.985	0.998
10	70	0.984	0.985	0.998
10	80	0.984	0.985	0.998
11	30	0.998	0.990	1.002
11	40	0.998	0.990	1.002
11	50	0.984	0.985	0.998
11	60	0.984	0.985	0.998
11	70	0.984	0.985	0.998
11	80	0.984	0.985	0.998
12	30	0.998	0.990	1.002
12	40	0.998	0.990	1.002

12	50	0.984	0.985	0.998
12	60	0.984	0.985	0.998
12	70	0.984	0.985	0.998
12	80	0.984	0.985	0.998
13	30	0.998	0.990	1.002
13	40	0.998	0.990	1.002
13	50	0.984	0.985	0.998
13	60	0.984	0.985	0.998
13	70	0.984	0.985	0.998
13	80	0.984	0.985	0.998
14	30	0.998	0.990	1.002
14	40	0.998	0.990	1.002
14	50	0.984	0.985	0.998
14	60	0.984	0.985	0.998
14	70	0.984	0.985	0.998
14	80	0.984	0.985	0.998
15	30	0.998	0.990	1.002
15	40	0.998	0.990	1.002
15	50	0.984	0.985	0.998
15	60	0.984	0.985	0.998
15	70	0.984	0.985	0.998
15	80	0.984	0.985	0.998

Link Only and Link and Junction Combined Casualty Beta Factor Changes over Time

Range of Years	Change to Beta Factor
1995-2019	1.000
2020-2144	0.000

Junction Only Accident Parameters

Base Year

1997

Junction Type	Speed Limit (mph)	Coefficient 'a'	Power 'b'	Arms	Highest Link (S/D)	Formula Type
1	50	0.195	0.460	3	S	C
1	60	0.195	0.460	3	S	C
1	70	0.195	0.460	3	S	C
1	80	0.195	0.460	3	S	C
2	20	0.195	0.460	3	S	C
2	30	0.195	0.460	3	S	C
2	40	0.195	0.460	3	S	C
3	50	0.195	0.460	3	D	C
3	60	0.195	0.460	3	D	C

3	70	0.195	0.460	3	D
C					
3	80	0.195	0.460	3	D
C					
4	20	0.195	0.460	3	D
C					
4	30	0.195	0.460	3	D
C					
4	40	0.195	0.460	3	D
C					
5	50	0.361	0.440	4	S
I					
5	60	0.361	0.440	4	S
I					
5	70	0.361	0.440	4	S
I					
5	80	0.361	0.440	4	S
I					
6	20	0.361	0.440	4	S
I					
6	30	0.361	0.440	4	S
I					
6	40	0.361	0.440	4	S
I					
7	50	0.240	0.710	4	D
C					
7	60	0.240	0.710	4	D
C					
7	70	0.240	0.710	4	D
C					
7	80	0.240	0.710	4	D
C					
8	20	0.240	0.710	4	D
C					
8	30	0.240	0.710	4	D
C					
8	40	0.240	0.710	4	D
C					
9	50	0.361	0.440	5	S
I					
9	60	0.361	0.440	5	S
I					
9	70	0.361	0.440	5	S
I					
9	80	0.361	0.440	5	S
I					
10	20	0.361	0.440	5	S
I					
10	30	0.361	0.440	5	S
I					
10	40	0.361	0.440	5	S
I					
11	50	0.361	0.440	5	D
I					

```
 11              60              0.361           0.440   5       D
I
 11              70              0.361           0.440   5       D
I
 11              80              0.361           0.440   5       D
I
 12              20              0.361           0.440   5       D
I
 12              30              0.361           0.440   5       D
I
 12              40              0.361           0.440   5       D
I
 13              50              0.195           0.460   3       S
C
 13              60              0.195           0.460   3       S
C
 13              70              0.195           0.460   3       S
C
 13              80              0.195           0.460   3       S
C
 14              20              0.195           0.460   3       S
C
 14              30              0.195           0.460   3       S
C
 14              40              0.195           0.460   3       S
C
 15              50              0.195           0.460   3       D
C
 15              60              0.195           0.460   3       D
C
 15              70              0.195           0.460   3       D
C
 15              80              0.195           0.460   3       D
C
 16              20              0.195           0.460   3       D
C
 16              30              0.195           0.460   3       D
C
 16              40              0.195           0.460   3       D
C
 17              50              0.361           0.440   4       S
I
 17              60              0.361           0.440   4       S
I
 17              70              0.361           0.440   4       S
I
 17              80              0.361           0.440   4       S
I
 18              20              0.361           0.440   4       S
I
 18              30              0.361           0.440   4       S
I
 18              40              0.361           0.440   4       S
I
```

19	50	0.240	0.710	4	D
C					
19	60	0.240	0.710	4	D
C					
19	70	0.240	0.710	4	D
C					
19	80	0.240	0.710	4	D
C					
20	20	0.240	0.710	4	D
C					
20	30	0.240	0.710	4	D
C					
20	40	0.240	0.710	4	D
C					
21	50	0.361	0.440	5	S
I					
21	60	0.361	0.440	5	S
I					
21	70	0.361	0.440	5	S
I					
21	80	0.361	0.440	5	S
I					
22	20	0.361	0.440	5	S
I					
22	30	0.361	0.440	5	S
I					
22	40	0.361	0.440	5	S
I					
23	50	0.361	0.440	5	D
I					
23	60	0.361	0.440	5	D
I					
23	70	0.361	0.440	5	D
I					
23	80	0.361	0.440	5	D
I					
24	20	0.361	0.440	5	D
I					
24	30	0.361	0.440	5	D
I					
24	40	0.361	0.440	5	D
I					
25	50	0.195	0.460	3	S
C					
25	60	0.195	0.460	3	S
C					
25	70	0.195	0.460	3	S
C					
25	80	0.195	0.460	3	S
C					
26	20	0.195	0.460	3	S
C					
26	30	0.195	0.460	3	S
C					

26	40	0.195	0.460	3	S
C					
27	50	0.195	0.460	3	D
C					
27	60	0.195	0.460	3	D
C					
27	70	0.195	0.460	3	D
C					
27	80	0.195	0.460	3	D
C					
28	20	0.195	0.460	3	D
C					
28	30	0.195	0.460	3	D
C					
28	40	0.195	0.460	3	D
C					
29	50	0.361	0.440	4	S
I					
29	60	0.361	0.440	4	S
I					
29	70	0.361	0.440	4	S
I					
29	80	0.361	0.440	4	S
I					
30	20	0.361	0.440	4	S
I					
30	30	0.361	0.440	4	S
I					
30	40	0.361	0.440	4	S
I					
31	50	0.240	0.710	4	D
C					
31	60	0.240	0.710	4	D
C					
31	70	0.240	0.710	4	D
C					
31	80	0.240	0.710	4	D
C					
32	20	0.240	0.710	4	D
C					
32	30	0.240	0.710	4	D
C					
32	40	0.240	0.710	4	D
C					
33	50	0.361	0.440	5	S
I					
33	60	0.361	0.440	5	S
I					
33	70	0.361	0.440	5	S
I					
33	80	0.361	0.440	5	S
I					
34	20	0.361	0.440	5	S
I					

```
 34              30              0.361           0.440   5       S
I
 34              40              0.361           0.440   5       S
I
 35              50              0.361           0.440   5       D
I
 35              60              0.361           0.440   5       D
I
 35              70              0.361           0.440   5       D
I
 35              80              0.361           0.440   5       D
I
 36              20              0.361           0.440   5       D
I
 36              30              0.361           0.440   5       D
I
 36              40              0.361           0.440   5       D
I
 37              50              0.223           0.610   3       S
I
 37              60              0.223           0.610   3       S
I
 37              70              0.223           0.610   3       S
I
 37              80              0.223           0.610   3       S
I
 38              20              0.223           0.610   3       S
I
 38              30              0.223           0.610   3       S
I
 38              40              0.223           0.610   3       S
I
 39              50              0.494           0.420   3       D
C
 39              60              0.494           0.420   3       D
C
 39              70              0.494           0.420   3       D
C
 39              80              0.494           0.420   3       D
C
 40              20              0.291           0.510   3       D
C
 40              30              0.291           0.510   3       D
C
 40              40              0.291           0.510   3       D
C
 41              50              1.378           0.200   4       S
C
 41              60              1.378           0.200   4       S
C
 41              70              1.378           0.200   4       S
C
 41              80              1.378           0.200   4       S
C
```

```
 42              20              1.378           0.200   4       S
C
 42              30              1.378           0.200   4       S
C
 42              40              1.378           0.200   4       S
C
 43              50              0.494           0.420   4       D
C
 43              60              0.494           0.420   4       D
C
 43              70              0.494           0.420   4       D
C
 43              80              0.494           0.420   4       D
C
 44              20              0.291           0.510   4       D
C
 44              30              0.291           0.510   4       D
C
 44              40              0.291           0.510   4       D
C
 45              50              0.254           0.620   5       S
I
 45              60              0.254           0.620   5       S
I
 45              70              0.254           0.620   5       S
I
 45              80              0.254           0.620   5       S
I
 46              20              0.254           0.620   5       S
I
 46              30              0.254           0.620   5       S
I
 46              40              0.254           0.620   5       S
I
 47              50              0.238           0.850   5       D
I
 47              60              0.238           0.850   5       D
I
 47              70              0.238           0.850   5       D
I
 47              80              0.238           0.850   5       D
I
 48              20              0.160           0.970   5       D
I
 48              30              0.160           0.970   5       D
I
 48              40              0.160           0.970   5       D
I
 49              50              0.033           0.760   3       S
C
 49              60              0.033           0.760   3       S
C
 49              70              0.033           0.760   3       S
C
```

```
 49              80              0.033           0.760   3       S
C
 50              20              0.033           0.760   3       S
C
 50              30              0.033           0.760   3       S
C
 50              40              0.033           0.760   3       S
C
 51              50              0.033           0.760   3       D
C
 51              60              0.033           0.760   3       D
C
 51              70              0.033           0.760   3       D
C
 51              80              0.033           0.760   3       D
C
 52              20              0.033           0.760   3       D
C
 52              30              0.033           0.760   3       D
C
 52              40              0.033           0.760   3       D
C
 53              50              0.024           0.890   4       S
C
 53              60              0.024           0.890   4       S
C
 53              70              0.024           0.890   4       S
C
 53              80              0.024           0.890   4       S
C
 54              20              0.048           0.740   4       S
C
 54              30              0.048           0.740   4       S
C
 54              40              0.048           0.740   4       S
C
 55              50              0.063           0.690   4       D
C
 55              60              0.063           0.690   4       D
C
 55              70              0.063           0.690   4       D
C
 55              80              0.063           0.690   4       D
C
 56              20              0.022           0.850   4       D
C
 56              30              0.022           0.850   4       D
C
 56              40              0.022           0.850   4       D
C
 57              50              0.007           1.770   5       S
I
 57              60              0.007           1.770   5       S
I
```

```
 57              70              0.007           1.770   5       S
I
 57              80              0.007           1.770   5       S
I
 58              20              0.014           1.530   5       S
I
 58              30              0.014           1.530   5       S
I
 58              40              0.014           1.530   5       S
I
 59              50              0.019           1.420   5       D
I
 59              60              0.019           1.420   5       D
I
 59              70              0.019           1.420   5       D
I
 59              80              0.019           1.420   5       D
I
 60              20              0.006           1.730   5       D
I
 60              30              0.006           1.730   5       D
I
 60              40              0.006           1.730   5       D
I
 61              50              0.033           0.760   3       S
C
 61              60              0.033           0.760   3       S
C
 61              70              0.033           0.760   3       S
C
 61              80              0.033           0.760   3       S
C
 62              20              0.033           0.760   3       S
C
 62              30              0.033           0.760   3       S
C
 62              40              0.033           0.760   3       S
C
 63              50              0.033           0.760   3       D
C
 63              60              0.033           0.760   3       D
C
 63              70              0.033           0.760   3       D
C
 63              80              0.033           0.760   3       D
C
 64              20              0.033           0.760   3       D
C
 64              30              0.033           0.760   3       D
C
 64              40              0.033           0.760   3       D
C
 65              50              0.101           0.660   4       S
C
```

```
 65              60              0.101           0.660   4       S
C
 65              70              0.101           0.660   4       S
C
 65              80              0.101           0.660   4       S
C
 66              20              0.263           0.540   4       S
C
 66              30              0.263           0.540   4       S
C
 66              40              0.263           0.540   4       S
C
 67              50              0.101           0.660   4       D
C
 67              60              0.101           0.660   4       D
C
 67              70              0.101           0.660   4       D
C
 67              80              0.101           0.660   4       D
C
 68              20              0.263           0.540   4       D
C
 68              30              0.263           0.540   4       D
C
 68              40              0.263           0.540   4       D
C
 69              50              0.044           1.280   5       S
I
 69              60              0.044           1.280   5       S
I
 69              70              0.044           1.280   5       S
I
 69              80              0.044           1.280   5       S
I
 70              20              0.095           1.140   5       S
I
 70              30              0.095           1.140   5       S
I
 70              40              0.095           1.140   5       S
I
 71              50              0.044           1.280   5       D
I
 71              60              0.044           1.280   5       D
I
 71              70              0.044           1.280   5       D
I
 71              80              0.044           1.280   5       D
I
 72              20              0.095           1.140   5       D
I
 72              30              0.095           1.140   5       D
I
 72              40              0.095           1.140   5       D
I
```

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 73              50              0.012           1.040   3       S
C
 73              60              0.012           1.040   3       S
C
 73              70              0.012           1.040   3       S
C
 73              80              0.012           1.040   3       S
C
 74              20              0.012           1.040   3       S
C
 74              30              0.012           1.040   3       S
C
 74              40              0.012           1.040   3       S
C
 75              50              0.012           1.040   3       D
C
 75              60              0.012           1.040   3       D
C
 75              70              0.012           1.040   3       D
C
 75              80              0.012           1.040   3       D
C
 76              20              0.012           1.040   3       D
C
 76              30              0.012           1.040   3       D
C
 76              40              0.012           1.040   3       D
C
 77              50              0.070           0.640   4       S
C
 77              60              0.070           0.640   4       S
C
 77              70              0.070           0.640   4       S
C
 77              80              0.070           0.640   4       S
C
 78              20              0.070           0.640   4       S
C
 78              30              0.070           0.640   4       S
C
 78              40              0.070           0.640   4       S
C
 79              50              0.070           0.640   4       D
C
 79              60              0.070           0.640   4       D
C
 79              70              0.070           0.640   4       D
C
 79              80              0.070           0.640   4       D
C
 80              20              0.070           0.640   4       D
C
 80              30              0.070           0.640   4       D
C
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 80              40              0.070           0.640   4       D
C
 81              50              0.013           1.470   5       S
I
 81              60              0.013           1.470   5       S
I
 81              70              0.013           1.470   5       S
I
 81              80              0.013           1.470   5       S
I
 82              20              0.013           1.470   5       S
I
 82              30              0.013           1.470   5       S
I
 82              40              0.013           1.470   5       S
I
 83              50              0.013           1.470   5       D
I
 83              60              0.013           1.470   5       D
I
 83              70              0.013           1.470   5       D
I
 83              80              0.013           1.470   5       D
I
 84              20              0.013           1.470   5       D
I
 84              30              0.013           1.470   5       D
I
 84              40              0.013           1.470   5       D
I
 85              50              0.033           0.760   3       S
C
 85              60              0.033           0.760   3       S
C
 85              70              0.033           0.760   3       S
C
 85              80              0.033           0.760   3       S
C
 86              20              0.033           0.760   3       S
C
 86              30              0.033           0.760   3       S
C
 86              40              0.033           0.760   3       S
C
 87              50              0.033           0.760   3       D
C
 87              60              0.033           0.760   3       D
C
 87              70              0.033           0.760   3       D
C
 87              80              0.033           0.760   3       D
C
 88              20              0.033           0.760   3       D
C
```

88	30	0.033	0.760	3	D
C					
88	40	0.033	0.760	3	D
C					
89	50	0.024	0.890	4	S
C					
89	60	0.024	0.890	4	S
C					
89	70	0.024	0.890	4	S
C					
89	80	0.024	0.890	4	S
C					
90	20	0.048	0.740	4	S
C					
90	30	0.048	0.740	4	S
C					
90	40	0.048	0.740	4	S
C					
91	50	0.063	0.690	4	D
C					
91	60	0.063	0.690	4	D
C					
91	70	0.063	0.690	4	D
C					
91	80	0.063	0.690	4	D
C					
92	20	0.022	0.850	4	D
C					
92	30	0.022	0.850	4	D
C					
92	40	0.022	0.850	4	D
C					
93	50	0.007	1.770	5	S
I					
93	60	0.007	1.770	5	S
I					
93	70	0.007	1.770	5	S
I					
93	80	0.007	1.770	5	S
I					
94	20	0.014	1.530	5	S
I					
94	30	0.014	1.530	5	S
I					
94	40	0.014	1.530	5	S
I					
95	50	0.019	1.420	5	D
I					
95	60	0.019	1.420	5	D
I					
95	70	0.019	1.420	5	D
I					
95	80	0.019	1.420	5	D
I					

96	20	0.006	1.730	5	D
I					
96	30	0.006	1.730	5	D
I					
96	40	0.006	1.730	5	D
I					

Junction Only Accident Change Factors
Base Year
2000

Classification	Speed Limit (mph)	Beta Factor
Major	20	0.991
Major	30	0.991
Major	40	0.991
Major	50	0.984
Major	60	0.984
Major	70	0.984
Major	80	0.984
Minor	20	0.976
Minor	30	0.976
Minor	40	0.976
Minor	50	0.996
Minor	60	0.996
Minor	70	0.996
Minor	80	0.996

Junction Only Accident Beta Factor Changes over Time

Range of Years	Change to Beta Factor
1995-2010	1.000
2011-2020	0.500
2021-2030	0.250
2031-2144	0.000

Junction Only Casualty Rates
Base Year
2000

Road Type	Casualties per P.I.A.		
	Fatal	Serious	Slight
1	0.0265	0.2413	1.355
2	0.0075	0.1350	1.144
3	0.0265	0.2413	1.355
4	0.0075	0.1350	1.144
5	0.0295	0.2793	1.459
6	0.0062	0.1292	1.244
7	0.0295	0.2793	1.459
8	0.0062	0.1292	1.244
9	0.0295	0.2793	1.459
10	0.0062	0.1292	1.244
11	0.0295	0.2793	1.459
12	0.0062	0.1292	1.244
13	0.0265	0.2413	1.355
14	0.0075	0.1350	1.144
15	0.0265	0.2413	1.355

16	0.0075	0.1350	1.144
17	0.0295	0.2793	1.459
18	0.0062	0.1292	1.244
19	0.0295	0.2793	1.459
20	0.0062	0.1292	1.244
21	0.0295	0.2793	1.459
22	0.0062	0.1292	1.244
23	0.0295	0.2793	1.459
24	0.0062	0.1292	1.244
25	0.0265	0.2413	1.355
26	0.0075	0.1350	1.144
27	0.0265	0.2413	1.355
28	0.0075	0.1350	1.144
29	0.0295	0.2793	1.459
30	0.0062	0.1292	1.244
31	0.0295	0.2793	1.459
32	0.0062	0.1292	1.244
33	0.0295	0.2793	1.459
34	0.0062	0.1292	1.244
35	0.0295	0.2793	1.459
36	0.0062	0.1292	1.244
37	0.0092	0.1631	1.444
38	0.0064	0.1157	1.214
39	0.0092	0.1631	1.444
40	0.0064	0.1157	1.214
41	0.0095	0.1423	1.467
42	0.0061	0.1177	1.253
43	0.0095	0.1423	1.467
44	0.0061	0.1177	1.253
45	0.0095	0.1423	1.467
46	0.0061	0.1177	1.253
47	0.0095	0.1423	1.467
48	0.0061	0.1177	1.253
49	0.0060	0.1019	1.214
50	0.0027	0.0806	1.163
51	0.0060	0.1019	1.214
52	0.0027	0.0806	1.163
53	0.0060	0.1019	1.214
54	0.0027	0.0806	1.163
55	0.0060	0.1019	1.214
56	0.0027	0.0806	1.163
57	0.0060	0.1019	1.214
58	0.0027	0.0806	1.163
59	0.0060	0.1019	1.214
60	0.0027	0.0806	1.163
61	0.0060	0.1019	1.214
62	0.0027	0.0806	1.163
63	0.0060	0.1019	1.214
64	0.0027	0.0806	1.163
65	0.0060	0.1019	1.214
66	0.0027	0.0806	1.163
67	0.0060	0.1019	1.214
68	0.0027	0.0806	1.163
69	0.0060	0.1019	1.214

70	0.0027	0.0806	1.163
71	0.0060	0.1019	1.214
72	0.0027	0.0806	1.163
73	0.0060	0.1019	1.214
74	0.0028	0.0965	1.182
75	0.0060	0.1019	1.214
76	0.0028	0.0965	1.182
77	0.0060	0.1019	1.214
78	0.0028	0.0965	1.182
79	0.0060	0.1019	1.214
80	0.0028	0.0965	1.182
81	0.0060	0.1019	1.214
82	0.0028	0.0965	1.182
83	0.0060	0.1019	1.214
84	0.0028	0.0965	1.182
85	0.0039	0.0703	1.258
86	0.0031	0.0705	1.221
87	0.0039	0.0703	1.258
88	0.0031	0.0705	1.221
89	0.0039	0.0703	1.258
90	0.0031	0.0705	1.221
91	0.0039	0.0703	1.258
92	0.0031	0.0705	1.221
93	0.0039	0.0703	1.258
94	0.0031	0.0705	1.221
95	0.0039	0.0703	1.258
96	0.0031	0.0705	1.221

Junction Only Casualty Change Factors
Base Year
2000

Classification	Speed Limit (mph)	Beta Factor Fatal	Serious	Slight
Major	20	0.949	0.962	1.010
Major	30	0.949	0.962	1.010
Major	40	0.949	0.962	1.010
Major	50	0.961	0.959	1.011
Major	60	0.961	0.959	1.011
Major	70	0.961	0.959	1.011
Major	80	0.961	0.959	1.011
Minor	20	0.968	0.958	1.006
Minor	30	0.968	0.958	1.006
Minor	40	0.968	0.958	1.006
Minor	50	0.976	0.972	1.011
Minor	60	0.976	0.972	1.011
Minor	70	0.976	0.972	1.011
Minor	80	0.976	0.972	1.011

Junction Only Casualty Beta Factor Changes over Time

Range of Years	Change to Beta Factor
1995-2010	1.000
2011-2144	0.000

```
*************************************************************************
*                                                                       *
*        CCC      OOO     BBBB      AAA             L         TTTTT      *
*       C   C    O   O    B   B    A   A            L           T        *
*       C        O   O    B   B    A   A            L           T        *
*       C        O   O    BBBB     AAAAA    ----    L           T        *
*       C        O   O    B   B    A   A            L           T        *
*       C   C    O   O    B   B    A   A            L           T        *
*        CCC      OOO     BBBB     A   A            LLLLL       T        *
*                                                                       *
*************************************************************************
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Written by Roger Himlin

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Input_File_Arundel_Opt5B_FINALv2.cbo

[Section 1] Summary Statistics

[Section 1.1] Economic Summary

Total Without-Scheme Accident Costs = 557,005.1
Total With-Scheme Accident Costs = 493,171.2

Total Accident Benefits Saved by Scheme = 63,833.9

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 1.2] Accident Summary

Total Without-Scheme Accidents = 11,046.5
Total With-Scheme Accidents = 9,724.0

Total Accidents Saved by Scheme = 1,322.6

[Section 1.3] Casualty Summary

Total Without-Scheme Casualties (Fatal) = 122.5
(Serious) = 1,465.1
(Slight) = 13,489.6
Total With-Scheme Casualties (Fatal) = 111.3
(Serious) = 1,292.0
(Slight) = 11,894.4

Total Casualties Saved by Scheme (Fatal) = 11.2
(Serious) = 173.1
(Slight) = 1,595.2

[Section 2] Accident Statistics

[Section 2.1] Link Accident Statistics

----------- Without-Scheme --------- *----------- With-Scheme -----------* *------------ Benefits ------------*
-- Number of Accidents - Total* *-- Number of Accidents -* Total* *-- Number of Accidents -* Total*
Link Name * 2023 2038 Total* Cost* * 2023 2038 Total* Cost* * 2023 2038 Total* Benefit*

Total 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

0.0 0.0 0.0 0.0 0.0 0.0

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 2.2] Junction Accident Statistics

	---------- Without-Scheme ---------				*---------- With-Scheme ----------*				*------------ Benefits ------------*
	-- Number of Accidents -			Total*	*-- Number of Accidents -*			Total*	
Junction Name	* 2023	2038	Total*	Cost*	* 2023	2038	Total*	Cost*	* 2023	2038	Total*	Benefit*
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 2.3] Combined Link and Junction Accident Statistics

	---------- Without-Scheme ---------				*---------- With-Scheme ----------*				*------------ Benefits ------------*
	-- Number of Accidents -			Total*	*-- Number of Accidents -*			Total*	
Link Name	* 2023	2038	Total*	Cost*	* 2023	2038	Total*	Cost*	* 2023	2038	Total*	Benefit*
12081202	0.0	0.0	1.9	136.5	0.0	0.0	2.2	157.2	0.0	0.0	-0.3	-20.7
12421208	0.3	3.2	195.5	9,121.9	0.4	3.8	229.0	10,697.5	-0.1	-0.6	-33.6	-1,575.6
74701242	0.1	0.8	50.0	2,333.9	0.1	0.9	56.0	2,617.0	0.0	-0.1	-6.0	-283.1
100011276	0.0	0.2	13.8	645.3	0.0	0.2	10.6	498.0	0.0	0.1	3.2	147.3
100081316	0.0	0.1	8.9	491.0	0.0	0.1	7.3	404.5	0.0	0.0	1.6	86.5
95521316	0.1	0.9	54.0	3,839.2	0.1	0.8	49.0	3,479.5	0.0	0.1	5.1	359.7
100321318	0.0	0.2	12.0	559.8	0.0	0.1	7.7	359.6	0.0	0.1	4.3	200.2
101241340	0.0	0.6	34.5	1,606.8	0.1	0.6	38.8	1,808.2	0.0	-0.1	-4.3	-201.4
13061344	0.0	0.1	7.0	325.8	0.0	0.2	11.3	529.8	0.0	-0.1	-4.4	-204.0
13401394	0.1	1.2	72.2	3,361.5	0.1	1.3	81.7	3,810.3	0.0	-0.2	-9.5	-448.8
100241396	0.0	0.2	9.1	425.6	0.0	0.1	5.9	278.1	0.0	0.1	3.2	147.5
13961410	0.0	0.2	14.6	684.0	0.0	0.2	9.1	427.6	0.0	0.1	5.5	256.4

14201412		0.0	0.2	9.3	435.6	0.0	0.1	8.0	371.1	0.0	0.0	1.4	64.5		
76481412		0.0	0.0	1.6	75.2	0.0	0.0	2.8	132.5	0.0	0.0	-1.2	-57.3		
14121416		0.0	0.1	3.9	181.4	0.0	0.1	3.5	164.7	0.0	0.0	0.4	16.7		
14241418		0.0	0.1	4.9	227.4	0.0	0.1	4.3	199.6	0.0	0.0	0.6	27.8		
14221420		0.2	2.2	135.6	6,327.6	0.2	1.8	111.6	5,205.6	0.1	0.4	24.0	1,122.0		
14281422		0.1	1.4	82.6	3,855.1	0.1	1.2	73.5	3,429.8	0.0	0.2	9.1	425.3		
14401424		0.0	0.0	0.3	16.1	0.0	0.0	0.1	5.9	0.0	0.0	0.2	10.3		
14181428		0.0	0.1	8.1	375.7	0.0	0.1	7.4	344.1	0.0	0.0	0.7	31.6		
14501440		0.0	0.1	7.3	340.7	0.0	0.1	6.9	320.1	0.0	0.0	0.4	20.6		
17661450		0.1	0.5	28.6	1,333.5	0.0	0.2	10.3	482.8	0.0	0.3	18.2	850.7		
14561454		0.0	0.1	3.7	173.1	0.0	0.1	3.5	161.9	0.0	0.0	0.2	11.3		
14161456		0.2	1.9	116.2	5,424.0	0.2	1.7	105.7	4,931.8	0.0	0.2	10.5	492.2		
15221490		0.0	0.5	30.8	1,437.1	0.0	0.4	22.0	1,028.9	0.0	0.1	8.8	408.2		
16181490		0.0	0.3	19.9	926.4	0.1	0.5	29.7	1,387.8	0.0	-0.2	-9.8	-461.3		
15161498		0.2	1.9	115.8	5,407.7	0.2	1.7	103.9	4,852.6	0.0	0.2	11.9	555.0		
101261502		0.1	1.3	81.7	3,809.2	0.1	1.5	90.4	4,219.6	0.0	-0.1	-8.7	-410.5		
16041522		0.1	0.8	46.3	2,159.0	0.1	0.5	33.1	1,545.7	0.0	0.2	13.2	613.3		
15541544		0.0	0.1	6.8	318.1	0.0	0.1	7.2	335.5	0.0	0.0	-0.4	-17.4		
15461548		0.0	0.1	4.5	212.1	0.0	0.1	4.9	229.7	0.0	0.0	-0.4	-17.7		
60151556		0.1	0.5	32.9	1,536.9	0.1	0.8	49.3	2,305.1	0.0	-0.3	-16.4	-768.1		
15481562		0.0	0.0	1.0	46.2	0.0	0.0	1.3	61.3	0.0	0.0	-0.3	-15.1		
15621568		0.0	0.1	8.5	397.2	0.0	0.2	9.2	430.4	0.0	0.0	-0.7	-33.2		
15581580		0.1	0.8	46.0	2,143.3	0.1	0.9	53.2	2,480.7	0.0	-0.1	-7.2	-337.4		
74781604		0.0	0.5	29.4	1,372.0	0.0	0.3	21.0	982.3	0.0	0.1	8.4	389.7		
18541622		0.0	0.1	3.7	173.3	0.0	0.4	21.6	1,009.7	0.0	-0.3	-17.9	-836.4		
79081696		0.0	0.5	31.9	1,488.6	0.1	0.9	53.8	2,506.1	0.0	-0.4	-21.8	-1,017.6		
15681744		0.0	0.2	9.4	668.5	0.0	0.2	13.1	934.6	0.0	-0.1	-3.7	-266.1		

17801758	0.0	0.1	7.5	348.5	0.0	0.1	9.0	419.6	0.0	0.0	-1.5	-71.1
18041764	0.0	0.3	19.4	905.0	0.0	0.3	15.3	716.0	0.0	0.1	4.1	189.0
17581764	0.0	0.2	12.5	581.2	0.0	0.3	15.8	738.8	0.0	-0.1	-3.4	-157.5
60521766	0.0	0.0	1.1	74.7	0.0	0.0	0.4	27.0	0.0	0.0	0.7	47.7
17061768	0.0	0.3	17.4	813.0	0.0	0.2	12.1	565.3	0.0	0.1	5.3	247.7
17681794	0.0	0.4	23.6	1,099.6	0.0	0.3	16.4	764.6	0.0	0.1	7.2	335.1
18161804	0.0	0.1	7.2	335.1	0.0	0.1	6.2	290.4	0.0	0.0	1.0	44.7
18341816	0.0	0.0	2.9	136.0	0.0	0.0	2.5	117.8	0.0	0.0	0.4	18.1
18341828	0.0	0.0	1.8	84.8	0.0	0.0	2.1	96.6	0.0	0.0	-0.3	-11.9
76441848	0.0	0.3	17.6	1,251.7	0.0	0.2	12.6	898.6	0.0	0.1	5.0	353.2
17941848	0.0	0.1	3.0	216.5	0.0	0.0	2.3	165.4	0.0	0.0	0.7	51.1
79361854	0.0	0.1	6.4	454.9	0.0	0.2	12.5	888.6	0.0	-0.1	-6.1	-433.8
16961866	0.0	0.3	18.4	856.0	0.0	0.5	31.6	1,471.6	0.0	-0.2	-13.2	-615.6
18781874	0.0	0.0	1.8	84.1	0.0	0.0	2.2	103.1	0.0	0.0	-0.4	-18.9
101691878	0.0	0.1	5.3	247.0	0.0	0.2	11.2	521.1	0.0	-0.1	-5.9	-274.1
19601956	0.0	0.1	8.0	374.3	0.0	0.1	8.8	412.3	0.0	0.0	-0.8	-38.0
76441956	0.0	0.3	15.7	1,116.5	0.0	0.2	12.9	918.2	0.0	0.0	2.8	198.3
95251960	0.1	1.1	67.5	3,147.9	0.2	1.4	85.6	3,999.6	-0.1	-0.3	-18.1	-851.7
19561962	0.0	0.1	4.5	208.9	0.0	0.1	5.3	246.3	0.0	0.0	-0.8	-37.4
19741970	0.0	0.1	4.4	203.9	0.0	0.1	4.7	219.0	0.0	0.0	-0.3	-15.1
19621974	0.0	0.0	1.7	78.5	0.0	0.0	1.3	60.8	0.0	0.0	0.4	17.7
90161994	0.0	0.1	7.2	399.1	0.0	0.1	8.6	474.1	0.0	0.0	-1.4	-75.0
19621994	0.1	0.7	44.7	2,084.1	0.1	1.2	72.8	3,399.2	-0.1	-0.5	-28.1	-1,315.1
20842002	0.2	2.3	141.2	6,587.2	0.2	2.5	153.3	7,155.5	0.0	-0.2	-12.1	-568.4
20722012	0.0	0.3	17.2	951.2	0.1	0.5	30.8	1,704.5	0.0	-0.2	-13.6	-753.3
20482030	0.0	0.1	5.0	234.9	0.0	0.1	5.4	253.0	0.0	0.0	-0.4	-18.0
19742030	0.0	0.2	10.4	484.8	0.0	0.1	6.9	323.3	0.0	0.1	3.5	161.5

20302034	0.0	0.0	2.3	106.6	0.0	0.0	1.5	71.1	0.0	0.0	0.8	35.4			
20122034	0.0	0.2	10.6	753.2	0.0	0.4	23.1	1,641.8	0.0	-0.2	-12.5	-888.7			
100582038	0.1	0.9	55.3	2,582.1	0.1	1.1	65.7	3,069.3	0.0	-0.2	-10.4	-487.2			
20442038	0.1	1.0	62.7	2,927.6	0.1	1.1	67.7	3,163.6	0.0	-0.1	-5.1	-236.0			
20382044	0.1	1.0	63.3	2,954.1	0.1	1.2	71.1	3,318.1	0.0	-0.1	-7.7	-363.9			
20342046	0.0	0.0	2.4	112.0	0.0	0.1	3.4	158.9	0.0	0.0	-1.0	-46.9			
20462058	0.0	0.1	4.4	203.0	0.0	0.1	6.2	287.2	0.0	0.0	-1.8	-84.1			
20962066	0.1	0.6	33.7	1,862.8	0.1	0.6	37.4	2,068.6	0.0	-0.1	-3.7	-205.7			
19942070	0.1	0.7	42.0	2,319.7	0.1	0.9	57.2	3,162.6	0.0	-0.3	-15.2	-843.0			
21102072	0.1	1.0	59.2	3,273.2	0.2	1.8	106.3	5,876.5	-0.1	-0.8	-47.1	-2,603.3			
90152076	0.0	0.1	6.6	367.3	0.0	0.2	10.3	571.9	0.0	-0.1	-3.7	-204.6			
73722084	0.2	2.1	129.3	6,035.3	0.2	2.3	140.4	6,556.0	0.0	-0.2	-11.1	-520.8			
76362086	0.1	0.7	40.1	1,868.9	0.1	0.9	53.3	2,488.2	0.0	-0.2	-13.2	-619.4			
95092086	0.0	0.1	5.3	245.6	0.0	0.1	5.7	264.7	0.0	0.0	-0.4	-19.2			
21742088	0.0	0.2	9.7	450.5	0.1	0.9	55.2	2,572.3	-0.1	-0.8	-45.5	-2,121.8			
95022088	0.0	0.1	6.8	317.8	0.1	0.8	49.4	2,312.8	-0.1	-0.7	-42.6	-1,995.0			
100562096	0.1	0.6	34.1	1,593.2	0.1	0.6	37.9	1,769.1	0.0	-0.1	-3.8	-175.9			
20762096	0.0	0.5	30.3	1,673.1	0.1	0.7	41.1	2,273.0	0.0	-0.2	-10.8	-599.8			
79062102	0.0	0.2	13.2	617.0	0.0	0.4	22.7	1,060.7	0.0	-0.2	-9.5	-443.7			
95032106	0.1	0.8	45.6	2,518.7	0.1	1.1	66.6	3,682.1	-0.1	-0.3	-21.0	-1,163.4			
21062108	0.0	0.1	8.2	382.0	0.0	0.1	3.7	172.3	0.0	0.1	4.5	209.7			
21302110	0.1	0.6	33.5	1,850.1	0.1	1.1	66.5	3,675.2	-0.1	-0.5	-33.0	-1,825.1			
95052110	0.0	0.8	50.5	2,344.4	0.0	0.0	0.0	0.3	0.0	0.8	50.5	2,344.0			
21082112	0.0	0.1	3.5	163.9	0.0	0.0	0.5	24.8	0.0	0.0	3.0	139.0			
21482130	0.0	0.2	12.9	600.9	0.0	0.1	6.6	306.4	0.0	0.1	6.3	294.5			
21022170	0.0	0.2	10.6	494.9	0.0	0.3	18.2	850.8	0.0	-0.1	-7.6	-355.9			
20882174	0.0	0.0	0.0	1.2	0.1	0.8	50.7	2,371.5	-0.1	-0.8	-50.6	-2,370.3			

74762174	0.0	0.2	13.7	636.8	0.0	0.3	17.0	790.9	0.0	-0.1	-3.3	-154.1
73712182	0.0	0.2	10.4	485.9	0.0	0.2	11.3	528.0	0.0	0.0	-0.9	-42.2
22242198	0.1	1.1	64.5	3,012.1	0.1	0.7	41.5	1,937.8	0.0	0.4	23.1	1,074.3
22482218	0.0	0.0	2.4	132.1	0.0	0.0	2.7	150.1	0.0	0.0	-0.3	-17.9
74742220	0.0	0.3	19.2	899.5	0.1	0.5	28.8	1,349.2	0.0	-0.2	-9.6	-449.7
22702224	0.2	1.7	100.7	4,699.3	0.1	1.0	59.8	2,791.4	0.0	0.7	41.0	1,907.9
21982224	0.1	0.9	55.4	2,584.6	0.1	0.5	32.1	1,500.0	0.0	0.4	23.3	1,084.6
22462244	0.0	0.1	3.8	179.4	0.0	0.1	3.3	154.2	0.0	0.0	0.5	25.2
90092246	0.0	0.4	21.9	1,021.7	0.0	0.3	16.3	761.5	0.0	0.1	5.6	260.1
22442252	0.0	0.1	4.4	207.1	0.0	0.1	3.7	172.4	0.0	0.0	0.7	34.6
22522260	0.0	0.1	4.2	198.0	0.0	0.1	3.6	169.0	0.0	0.0	0.6	29.0
95272270	0.1	1.0	62.8	2,931.9	0.1	0.8	46.0	2,148.0	0.0	0.3	16.8	783.8
75742270	0.0	0.5	27.8	1,298.5	0.0	0.2	10.6	495.6	0.0	0.3	17.3	802.9
22242270	0.1	1.4	82.6	3,856.2	0.1	0.8	46.3	2,168.4	0.0	0.6	36.3	1,687.8
22802272	0.0	0.3	15.8	734.2	0.0	0.2	13.4	627.4	0.0	0.0	2.3	106.8
22722274	0.0	0.1	4.6	216.7	0.0	0.1	4.0	186.6	0.0	0.0	0.6	30.1
76782280	0.1	1.2	75.4	5,349.2	0.1	1.1	64.3	4,570.5	0.0	0.2	11.0	778.7
22602280	0.0	0.3	19.0	885.0	0.0	0.3	16.1	749.8	0.0	0.0	2.9	135.2
23082306	0.0	0.1	6.0	332.2	0.0	0.1	4.0	219.3	0.0	0.0	2.0	112.9
60472308	0.0	0.0	1.0	44.5	0.0	0.0	2.8	132.1	0.0	0.0	-1.9	-87.5
60482308	0.0	0.0	0.9	48.2	0.0	0.0	0.1	6.7	0.0	0.0	0.8	41.5
95022308	0.0	0.0	2.5	116.3	0.1	0.8	48.0	2,239.5	-0.1	-0.8	-45.5	-2,123.2
24202310	0.0	0.2	12.7	589.3	0.1	0.8	49.2	2,298.8	-0.1	-0.6	-36.6	-1,709.4
60472312	0.0	0.0	0.8	41.6	0.0	0.0	0.1	3.3	0.0	0.0	0.7	38.3
23902316	0.2	1.6	95.8	4,471.0	0.0	0.1	8.9	416.2	0.1	1.4	86.9	4,054.8
24162316	0.0	0.1	6.4	456.8	0.0	0.4	21.3	1,514.1	0.0	-0.2	-14.9	-1,057.4
95272316	0.1	1.0	61.8	2,883.0	0.1	0.5	31.9	1,493.2	0.0	0.5	29.9	1,389.8

23462324		0.0		0.0		30.2		1,326.9		0.0		0.0		12.7	
557.2		0.0		0.0		17.5		769.7							
23582346		0.0		0.1		5.7		267.8		0.0		0.1		5.4	
252.9		0.0		0.0		0.3		14.9							
23622358		0.0		0.0		1.3		61.0		0.0		0.0		1.0	
46.0		0.0		0.0		0.3		15.0							
23782358		0.0		0.3		15.4		849.9		0.0		0.3		16.4	
908.8		0.0		0.0		-1.1		-58.9							
23742372		0.0		0.0		2.2		104.5		0.0		0.0		0.1	
2.9		0.0		0.0		2.2		101.6							
23242372		0.0		0.1		6.8		375.0		0.0		0.2		9.5	
526.3		0.0		0.0		-2.7		-151.3							
23822374		0.0		0.1		5.1		238.4		0.0		0.1		3.5	
163.8		0.0		0.0		1.6		74.6							
23722378		0.0		0.1		4.7		217.2		0.0		0.1		3.8	
176.5		0.0		0.0		0.9		40.7							
74822380		0.0		0.1		7.5		352.9		0.1		0.4		21.4	
1,004.5		0.0		-0.2		-13.9		-651.6							
23842382		0.0		0.1		5.2		244.9		0.0		0.1		4.1	
192.3		0.0		0.0		1.1		52.6							
24082382		0.0		0.4		25.4		1,806.3		0.0		0.0		0.8	
57.7		0.0		0.4		24.6		1,748.5							
23782384		0.0		0.0		1.3		61.3		0.0		0.0		0.3	
12.6		0.0		0.0		1.0		48.7							
23922390		0.2		1.8		109.5		5,111.3		0.0		0.2		10.2	
475.7		0.1		1.6		99.3		4,635.6							
23162390		0.2		1.7		104.2		4,862.3		0.1		0.6		38.8	
1,818.3		0.1		1.1		65.3		3,044.0							
23902392		0.2		2.0		119.0		5,558.5		0.1		0.7		44.3	
2,078.0		0.1		1.2		74.7		3,480.5							
23122392		0.1		0.6		38.6		2,131.3		0.0		0.1		3.6	
198.4		0.1		0.6		35.0		1,932.9							
76382406		0.0		0.2		11.4		808.2		0.0		0.4		21.8	
1,549.2		0.0		-0.2		-10.4		-741.0							
24202408		0.0		0.2		10.7		763.2		0.0		0.0		0.4	
29.6		0.0		0.2		10.3		733.7							
23822408		0.0		0.4		26.9		1,912.6		0.0		0.1		7.1	
503.9		0.0		0.3		19.9		1,408.7							
75722416		0.0		0.3		20.3		1,444.5		0.1		0.7		42.4	
3,014.8		0.0		-0.4		-22.1		-1,570.3							
23162416		0.0		0.0		2.8		202.4		0.0		0.2		9.9	
701.2		0.0		-0.1		-7.0		-498.8							
74842420		0.0		0.0		0.3		14.7		0.0		0.2		11.8	
546.3		0.0		-0.2		-11.4		-531.6							
24362420		0.1		0.8		50.9		2,376.7		0.1		0.5		28.4	
1,328.7		0.0		0.4		22.5		1,048.0							
24082420		0.0		0.2		11.4		809.5		0.0		0.1		3.1	
217.9		0.0		0.1		8.3		591.5							
24782436		0.0		0.2		11.6		644.0		0.0		0.1		6.5	
360.8		0.0		0.1		5.1		283.2							
24202436		0.1		0.8		48.4		2,256.5		0.0		0.3		19.7	
921.0		0.0		0.5		28.7		1,335.5							
74862478		0.1		1.2		71.6		5,088.7		0.1		0.7		40.1	
2,851.1		0.0		0.5		31.5		2,237.6							

24362478	0.0	0.2	12.3	677.0	0.0	0.1	5.3	295.1	0.0	0.1	6.9	381.9			
24922482	0.0	0.0	1.0	44.9	0.0	0.6	35.4	1,642.5	0.0	-0.6	-34.4	-1,597.6			
74842482	0.0	0.0	0.6	27.4	0.0	0.2	12.4	579.3	0.0	-0.2	-11.8	-551.8			
24822492	0.0	0.0	1.6	73.3	0.1	0.5	33.0	1,549.2	-0.1	-0.5	-31.5	-1,475.9			
74822492	0.0	0.0	1.7	79.7	0.0	0.3	15.6	723.2	0.0	-0.2	-13.9	-643.5			
25062508	0.0	0.0	1.5	71.3	0.0	0.0	1.8	82.8	0.0	0.0	-0.2	-11.4			
24062516	0.1	0.8	50.3	3,565.6	0.2	1.7	99.9	7,099.2	-0.1	-0.8	-49.6	-3,533.7			
25162520	0.0	0.1	3.8	179.4	0.0	0.1	5.2	240.6	0.0	0.0	-1.3	-61.2			
25202536	0.0	0.1	7.0	387.0	0.0	0.2	9.2	508.4	0.0	0.0	-2.2	-121.4			
25762546	0.2	3.2	194.0	9,038.1	0.2	2.8	168.2	7,843.4	0.0	0.4	25.8	1,194.7			
76782546	0.1	1.1	68.6	4,874.5	0.1	1.0	58.1	4,129.6	0.0	0.2	10.5	744.9			
25362568	0.0	0.2	14.6	807.1	0.0	0.3	19.2	1,060.4	0.0	-0.1	-4.6	-253.3			
90052576	0.2	3.5	211.7	9,859.8	0.3	3.0	181.8	8,480.5	0.0	0.5	29.8	1,379.3			
25462576	0.3	3.6	216.0	10,070.4	0.3	3.1	186.0	8,676.7	0.0	0.5	30.0	1,393.6			
25942592	0.0	0.1	6.8	316.3	0.0	0.1	5.4	252.1	0.0	0.0	1.4	64.1			
95392592	0.0	0.0	1.6	91.1	0.0	0.0	0.7	39.9	0.0	0.0	0.9	51.2			
75722594	0.0	0.2	14.7	1,042.6	0.0	0.4	25.6	1,822.9	0.0	-0.2	-11.0	-780.3			
25982596	0.0	0.1	7.5	348.8	0.0	0.1	5.5	255.1	0.0	0.0	2.0	93.7			
75702596	0.0	0.5	27.3	1,942.2	0.0	0.4	22.7	1,615.7	0.0	0.1	4.6	326.4			
26422598	0.1	0.6	39.2	2,789.7	0.1	0.8	49.2	3,502.1	0.0	-0.2	-10.0	-712.4			
25922598	0.0	0.2	14.6	681.3	0.0	0.2	10.0	466.5	0.0	0.1	4.6	214.8			
26162610	0.0	0.4	26.5	1,237.2	0.0	0.4	22.0	1,029.0	0.0	0.1	4.5	208.1			
75702610	0.0	0.4	22.2	1,574.0	0.0	0.1	8.7	616.6	0.0	0.2	13.5	957.4			
26342616	0.1	0.6	39.1	2,778.9	0.1	0.5	32.1	2,288.3	0.0	0.1	6.9	490.6			
26102616	0.0	0.4	24.5	1,140.4	0.0	0.2	9.6	446.7	0.0	0.2	14.9	693.7			
75762634	0.1	1.0	58.4	2,725.4	0.1	0.8	48.0	2,244.0	0.0	0.2	10.4	481.3			
26162634	0.1	0.6	38.2	2,710.1	0.0	0.3	16.0	1,139.9	0.0	0.4	22.1	1,570.3			

90052638		0.2	1.9	115.0	5,361.2	0.1	1.5	93.3	4,353.6	0.0	0.4	21.7	1,007.6
26382640		0.0	0.1	4.9	347.7	0.0	0.1	4.0	285.9	0.0	0.0	0.9	61.7
27022642		0.0	0.2	14.8	1,049.7	0.0	0.3	18.5	1,317.8	0.0	-0.1	-3.8	-268.1
25982642		0.1	0.6	33.7	2,391.8	0.1	0.7	41.1	2,919.6	0.0	-0.1	-7.4	-527.8
26902676		0.1	0.6	38.6	1,802.3	0.1	0.5	31.7	1,484.0	0.0	0.1	6.9	318.3
75762676		0.1	0.8	51.4	2,396.9	0.0	0.4	21.6	1,008.0	0.0	0.5	29.8	1,388.9
60362690		0.8	7.1	428.5	20,011.5	0.8	5.8	352.4	16,477.3	0.0	1.3	76.1	3,534.2
26762690		0.1	0.6	37.7	1,757.7	0.0	0.3	15.8	739.2	0.0	0.4	21.9	1,018.6
26422702		0.0	0.2	12.7	900.0	0.0	0.3	15.5	1,098.6	0.0	0.0	-2.8	-198.6
27142706		0.1	1.1	66.1	3,083.2	0.1	0.9	53.5	2,496.3	0.0	0.2	12.6	586.9
27102708		0.0	0.1	5.3	249.7	0.0	0.1	4.9	229.0	0.0	0.0	0.4	20.7
75882710		0.1	1.4	84.7	3,951.4	0.1	1.1	68.6	3,199.3	0.0	0.3	16.2	752.2
27082712		0.0	0.1	5.1	236.9	0.0	0.1	4.0	184.6	0.0	0.0	1.1	52.3
25682712		0.1	0.7	45.1	2,492.8	0.1	1.0	59.2	3,275.0	0.0	-0.2	-14.1	-782.3
27282714		0.2	2.0	119.8	5,587.5	0.2	1.6	96.9	4,523.9	0.0	0.4	22.9	1,063.6
27222720		0.0	0.1	5.9	274.8	0.0	0.1	5.5	254.6	0.0	0.0	0.4	20.2
27262722		0.0	0.0	2.8	129.5	0.0	0.0	2.2	101.9	0.0	0.0	0.6	27.6
27422722		0.0	0.3	15.2	842.5	0.0	0.2	14.2	784.3	0.0	0.0	1.1	58.2
73462724		0.0	0.0	2.9	136.3	0.0	0.0	1.3	62.0	0.0	0.0	1.6	74.3
27162724		0.0	0.1	5.3	248.6	0.0	0.1	6.7	314.1	0.0	0.0	-1.4	-65.5
26402728		0.5	6.2	377.2	17,588.1	0.5	5.0	299.7	13,985.6	0.0	1.3	77.5	3,602.5
73462740		0.5	4.8	292.3	13,650.5	0.4	3.4	206.4	9,647.5	0.1	1.4	85.9	4,003.0
27482740		0.1	0.6	35.2	1,644.4	0.0	0.2	12.2	570.8	0.1	0.4	23.0	1,073.6
28342742		0.2	2.1	125.0	6,905.4	0.2	2.0	118.1	6,533.5	0.0	0.1	6.8	371.9
28162744		0.0	1.1	64.3	2,987.5	0.1	0.5	31.6	1,477.1	-0.1	0.5	32.7	1,510.4
27542748		0.0	0.3	18.0	840.3	0.0	0.1	5.9	275.3	0.0	0.2	12.1	565.0
27402748		0.1	0.8	51.3	2,394.8	0.1	0.7	44.2	2,064.9	0.0	0.1	7.1	329.9

75782750	0.0	0.2	11.3	801.5	0.0	0.2	9.3	660.0	0.0	0.0	2.0	141.5
60362750	0.0	0.4	27.1	1,921.9	0.0	0.2	11.4	808.3	0.0	0.3	15.7	1,113.7
27642754	0.0	0.3	20.6	964.1	0.0	0.1	6.8	315.9	0.0	0.2	13.9	648.2
27482754	0.1	0.5	27.6	1,291.1	0.1	0.4	23.9	1,115.6	0.0	0.1	3.8	175.6
27662762	0.1	0.8	51.2	2,386.3	0.0	0.4	21.5	1,003.5	0.0	0.5	29.7	1,382.8
27642762	0.0	0.1	6.8	315.8	0.0	0.1	5.2	241.0	0.0	0.0	1.6	74.8
27702764	0.0	0.1	6.8	315.9	0.0	0.0	1.4	66.3	0.0	0.1	5.4	249.5
27542764	0.1	0.5	31.7	1,481.3	0.1	0.5	27.4	1,279.9	0.0	0.1	4.3	201.4
27622764	0.0	0.1	6.1	282.3	0.0	0.0	2.5	118.7	0.0	0.1	3.5	163.6
27622766	0.1	0.9	56.1	2,619.8	0.1	0.7	43.6	2,037.0	0.0	0.2	12.5	582.7
75782766	0.1	0.7	39.5	1,843.0	0.0	0.3	16.6	775.0	0.0	0.4	22.9	1,067.9
75802770	0.0	0.2	11.8	548.9	0.0	0.0	1.8	82.9	0.0	0.2	10.0	465.9
27642770	0.0	0.2	12.6	585.6	0.0	0.1	7.1	331.9	0.0	0.1	5.5	253.7
27402792	0.1	0.5	30.5	1,423.7	0.0	0.1	4.4	203.4	0.0	0.4	26.1	1,220.3
75802792	0.0	0.3	20.6	955.9	0.0	0.2	11.6	541.9	0.0	0.1	9.0	414.0
27922804	0.0	0.2	9.9	459.4	0.0	0.1	6.5	303.8	0.0	0.1	3.4	155.7
28042808	0.0	0.1	8.5	393.8	0.0	0.1	4.4	204.9	0.0	0.1	4.1	188.9
28082816	0.0	0.6	34.3	1,591.6	0.0	0.3	16.8	785.8	0.0	0.3	17.4	805.7
22206015	0.1	0.5	30.0	2,139.4	0.1	0.7	45.0	3,209.2	0.0	-0.2	-15.0	-1,069.8
16226016	0.0	0.0	0.8	38.8	0.0	0.0	2.9	136.2	0.0	0.0	-2.1	-97.4
13446018	0.0	0.0	2.0	94.9	0.0	0.1	3.9	184.0	0.0	0.0	-1.9	-89.0
27506036	0.1	0.5	27.7	1,970.9	0.1	0.4	22.8	1,622.9	0.0	0.1	4.9	348.0
26906036	0.6	6.9	418.6	19,516.3	0.3	2.9	175.8	8,207.1	0.2	4.0	242.8	11,309.1
23106047	0.0	0.1	5.1	280.4	0.0	0.0	2.3	128.4	0.0	0.0	2.8	152.1
95006048	0.0	0.4	24.2	1,335.9	0.0	0.1	4.6	256.1	0.0	0.3	19.5	1,079.8
60506049	0.0	0.0	1.6	75.2	0.0	0.0	0.4	17.9	0.0	0.0	1.2	57.3
24166049	0.0	0.3	18.2	846.8	0.0	0.1	5.2	242.3	0.0	0.2	13.0	604.5

60516050	0.0	0.0	2.2	101.0	0.0	0.0	1.6	75.3	0.0	0.0	0.5	25.7			
23166050	0.0	0.3	18.7	872.1	0.0	0.0	1.5	68.1	0.0	0.3	17.3	804.0			
75746051	0.0	0.3	18.2	850.5	0.0	0.2	13.5	634.2	0.0	0.1	4.6	216.3			
60496051	0.0	0.1	4.1	189.7	0.0	0.0	0.6	28.9	0.0	0.1	3.5	160.8			
18486052	0.0	0.1	4.7	336.2	0.0	0.1	3.4	241.3	0.0	0.0	1.3	94.8			
27407346	0.4	3.6	218.7	10,211.8	0.2	1.6	99.5	4,644.4	0.2	2.0	119.2	5,567.4			
27167346	0.0	0.1	4.7	221.4	0.0	0.1	3.3	156.5	0.0	0.0	1.4	64.9			
22187371	0.0	0.2	13.7	754.9	0.0	0.2	14.8	820.4	0.0	0.0	-1.2	-65.5			
73767372	0.0	0.1	7.6	353.7	0.0	0.1	8.2	384.3	0.0	0.0	-0.7	-30.6			
73777376	0.0	0.1	4.2	198.3	0.0	0.1	4.6	214.9	0.0	0.0	-0.4	-16.6			
21827377	0.0	0.1	4.2	194.7	0.0	0.1	4.5	211.0	0.0	0.0	-0.3	-16.3			
12507470	0.1	0.7	45.3	2,114.3	0.1	0.8	50.8	2,370.7	0.0	-0.1	-5.5	-256.5			
23167474	0.1	0.4	22.7	1,061.2	0.1	0.6	36.5	1,709.6	0.0	-0.2	-13.9	-648.4			
21707476	0.0	0.2	10.5	491.1	0.0	0.2	13.2	617.3	0.0	0.0	-2.7	-126.3			
74797478	0.1	0.8	49.3	2,298.1	0.1	0.6	34.2	1,595.7	0.0	0.2	15.1	702.4			
24927482	0.0	0.1	7.3	343.4	0.1	0.3	19.8	926.9	0.0	-0.2	-12.4	-583.4			
23807482	0.0	0.0	1.3	62.8	0.0	0.3	16.8	781.1	0.0	-0.3	-15.5	-718.3			
24207484	0.0	0.0	0.5	24.0	0.0	0.2	10.8	506.8	0.0	-0.2	-10.3	-482.9			
24827484	0.0	0.0	0.4	16.8	0.0	0.2	13.2	614.1	0.0	-0.2	-12.8	-597.3			
95397486	0.1	1.4	87.4	6,210.9	0.1	0.8	49.3	3,508.2	0.0	0.6	38.1	2,702.7			
24787486	0.1	1.2	75.4	5,349.3	0.0	0.5	32.8	2,331.8	0.0	0.7	42.5	3,017.5			
26107570	0.0	0.4	24.0	1,707.3	0.0	0.3	20.0	1,420.4	0.0	0.1	4.1	287.0			
25967570	0.0	0.4	25.2	1,790.4	0.0	0.2	9.9	701.4	0.0	0.3	15.4	1,089.0			
25947572	0.0	0.5	28.7	2,040.0	0.1	0.9	55.4	3,944.1	-0.1	-0.4	-26.7	-1,904.1			
24167572	0.0	0.2	10.5	745.0	0.0	0.4	22.2	1,575.6	0.0	-0.2	-11.7	-830.6			
60517574	0.0	0.4	24.5	1,141.2	0.0	0.1	3.7	173.8	0.0	0.3	20.8	967.3			
26347576	0.1	0.9	57.0	2,657.9	0.0	0.4	23.9	1,117.9	0.0	0.5	33.1	1,540.0			

26767576		0.1	0.9	52.6	2,457.7	0.1	0.7	43.3	2,023.7	0.0	0.2	9.3	434.1
27507578		0.0	0.2	11.0	781.6	0.0	0.1	4.6	328.7	0.0	0.1	6.4	452.9
27667578		0.1	0.7	40.5	1,889.7	0.1	0.5	33.3	1,556.0	0.0	0.1	7.2	333.7
27927580		0.0	0.3	15.4	716.3	0.0	0.0	2.3	108.3	0.0	0.2	13.0	608.1
27707580		0.0	0.3	15.8	732.5	0.0	0.1	8.9	415.2	0.0	0.1	6.9	317.3
27067588		0.1	1.2	72.8	3,396.2	0.1	1.0	58.9	2,749.7	0.0	0.2	13.9	646.5
20447616		0.1	1.9	114.5	5,337.1	0.2	1.7	102.0	4,756.8	0.0	0.2	12.5	580.3
20867636		0.1	0.7	43.2	2,016.7	0.1	0.8	47.5	2,215.9	0.0	-0.1	-4.3	-199.1
100567636		0.0	0.3	20.9	974.5	0.0	0.5	27.8	1,297.4	0.0	-0.1	-6.9	-322.9
20587638		0.0	0.2	14.9	1,058.7	0.0	0.5	27.6	1,957.7	0.0	-0.2	-12.6	-899.1
19567644		0.0	0.4	21.2	1,510.4	0.0	0.3	16.2	1,151.3	0.0	0.1	5.0	359.1
18487644		0.0	0.2	11.4	810.0	0.0	0.1	8.7	618.9	0.0	0.0	2.7	191.2
60187648		0.0	0.0	1.2	54.4	0.0	0.0	2.3	105.5	0.0	0.0	-1.1	-51.1
13067656		0.0	0.2	13.8	643.4	0.0	0.1	8.4	392.7	0.0	0.1	5.4	250.7
60167672		0.0	0.0	1.1	50.4	0.0	0.1	3.8	177.0	0.0	0.0	-2.7	-126.5
22807678		0.1	1.3	80.8	5,737.5	0.1	1.1	68.4	4,860.7	0.0	0.2	12.4	876.8
25467678		0.1	1.1	64.0	4,544.6	0.1	0.9	54.7	3,883.0	0.0	0.2	9.4	661.6
18667906		0.0	0.2	13.2	617.0	0.0	0.4	22.7	1,060.7	0.0	-0.2	-9.5	-443.7
79097908		0.0	0.1	5.8	272.1	0.0	0.2	10.4	483.8	0.0	-0.1	-4.5	-211.8
18547936		0.0	0.1	7.8	557.2	0.0	0.2	9.8	699.8	0.0	0.0	-2.0	-142.6
15027944		0.1	1.2	73.5	3,423.7	0.1	1.3	81.4	3,798.9	0.0	-0.1	-8.0	-375.2
26389005		0.1	1.6	97.7	4,550.9	0.1	1.4	82.3	3,837.8	0.0	0.3	15.4	713.0
25769005		0.3	4.0	242.4	11,302.1	0.3	3.4	206.6	9,639.3	0.0	0.6	35.8	1,662.8
22489009		0.0	0.3	15.9	739.3	0.0	0.2	11.8	551.0	0.0	0.1	4.0	188.2
20169014		0.0	0.1	5.6	263.2	0.0	0.1	6.0	282.1	0.0	0.0	-0.4	-18.9
20129015		0.0	0.3	17.2	1,219.5	0.0	0.4	26.7	1,898.8	0.0	-0.2	-9.6	-679.3
20669016		0.0	0.1	6.9	379.7	0.0	0.1	8.2	451.1	0.0	0.0	-1.3	-71.4

23929500	0.0	0.3	21.0	1,161.3	0.0	0.1	7.8	434.3	0.0	0.2	13.2	726.9
95009501	0.0	0.0	0.0	0.0	0.1	0.4	22.0	1,029.1	-0.1	-0.4	-22.0	-1,029.1
23089502	0.0	0.1	6.8	317.8	0.1	0.5	29.1	1,362.8	-0.1	-0.4	-22.3	-1,045.0
95019502	0.0	0.0	0.0	0.0	0.1	0.4	22.0	1,029.1	-0.1	-0.4	-22.0	-1,029.1
20889502	0.0	0.3	15.7	730.8	0.1	0.9	54.9	2,562.2	-0.1	-0.6	-39.2	-1,831.4
20709503	0.1	0.6	38.5	2,128.6	0.1	0.9	54.3	3,004.2	0.0	-0.3	-15.8	-875.6
100589509	0.2	1.6	94.1	4,393.8	0.2	1.7	102.1	4,767.2	0.0	-0.1	-8.0	-373.5
20869509	0.0	0.1	4.6	216.3	0.0	0.1	5.7	267.1	0.0	0.0	-1.1	-50.8
17449525	0.1	1.1	67.5	3,150.6	0.2	1.4	85.7	4,004.2	-0.1	-0.3	-18.2	-853.7
23169527	0.1	1.1	65.2	3,042.3	0.1	0.8	47.9	2,237.1	0.0	0.3	17.3	805.2
22709527	0.1	1.0	61.7	2,874.3	0.1	0.5	32.0	1,497.9	0.0	0.5	29.6	1,376.3
25929539	0.0	0.0	1.6	86.6	0.0	0.0	0.9	48.9	0.0	0.0	0.7	37.7
74869539	0.1	1.5	92.0	6,527.2	0.1	0.7	40.3	2,858.2	0.1	0.9	51.7	3,669.0
13169552	0.1	0.8	45.7	3,253.8	0.1	0.6	39.1	2,778.5	0.0	0.1	6.7	475.3
12509552	0.2	1.7	102.6	4,787.8	0.2	1.5	93.0	4,339.3	0.0	0.2	9.6	448.5
130010001	0.0	0.1	6.7	313.8	0.0	0.1	5.2	242.1	0.0	0.0	1.5	71.6
149810008	0.0	0.2	10.3	478.7	0.0	0.2	9.2	429.6	0.0	0.0	1.1	49.1
141010021	0.0	0.2	11.9	554.1	0.0	0.1	7.1	333.1	0.0	0.1	4.8	221.0
1015410024	0.0	0.0	2.3	107.5	0.0	0.0	1.6	73.3	0.0	0.0	0.7	34.1
765610032	0.0	0.2	10.5	488.0	0.0	0.1	6.3	296.0	0.0	0.1	4.1	192.1
763610056	0.0	0.4	22.5	1,051.5	0.0	0.4	24.7	1,155.3	0.0	0.0	-2.2	-103.8
209610056	0.0	0.5	32.0	1,493.0	0.1	0.7	43.4	2,028.1	0.0	-0.2	-11.4	-535.1
203810058	0.1	0.9	56.4	2,637.4	0.1	1.0	61.5	2,874.1	0.0	-0.1	-5.1	-236.6
950910058	0.1	1.5	89.1	4,157.4	0.2	1.8	107.1	5,001.5	0.0	-0.3	-18.0	-844.0
139410126	0.0	0.3	16.9	787.3	0.0	0.3	18.8	876.5	0.0	0.0	-1.9	-89.2
135810154	0.1	0.6	38.6	1,801.3	0.1	0.4	25.8	1,209.5	0.0	0.2	12.7	591.8
190210169	0.0	0.0	2.7	123.8	0.0	0.1	6.3	293.4	0.0	-0.1	-3.6	-169.6

761610173	0.1	0.9	53.9	2,516.3	0.1	0.8	47.7	2,225.2	0.0	0.1	6.3	291.1	
21482108	0.0	0.0	0.0	0.0	0.0	0.0	0.4	19.2	0.0	0.0	-0.4	-19.2	
21062112	0.0	0.0	0.0	0.0	0.0	0.0	1.0	55.6	0.0	0.0	-1.0	-55.6	
21402130	0.0	0.0	0.0	0.0	0.0	0.0	1.0	60.8	0.0	0.0	-1.0	-60.8	
133022140	0.0	0.0	0.0	0.0	0.1	0.1	5.0	292.3	-0.1	-0.1	-5.0	-292.3	
21082148	0.0	0.0	0.0	0.0	0.0	0.0	0.7	35.4	0.0	0.0	-0.7	-35.4	
143062310	0.0	0.0	0.0	0.0	0.0	0.0	0.6	30.1	0.0	0.0	-0.6	-30.1	
143092324	0.0	0.0	0.0	0.0	0.0	0.0	0.8	46.1	0.0	0.0	-0.8	-46.1	
211213301	0.0	0.0	0.0	0.0	0.1	0.1	6.5	378.9	-0.1	-0.1	-6.5	-378.9	
1430213302	0.0	0.0	0.0	0.0	0.1	0.1	4.8	279.0	-0.1	-0.1	-4.8	-279.0	
1330114301	0.0	0.0	0.0	0.0	0.1	0.1	4.5	260.9	-0.1	-0.1	-4.5	-260.9	
1430414302	0.0	0.0	0.0	0.0	0.1	0.0	2.5	146.2	-0.1	0.0	-2.5	-146.2	
1430114303	0.0	0.0	0.0	0.0	0.0	0.0	2.6	149.1	0.0	0.0	-2.6	-149.1	
1430814304	0.0	0.0	0.0	0.0	0.0	0.0	0.5	27.1	0.0	0.0	-0.5	-27.1	
1430614304	0.0	0.0	0.0	0.0	0.0	0.0	1.1	56.4	0.0	0.0	-1.1	-56.4	
1430614305	0.0	0.0	0.0	0.0	0.0	0.0	0.1	5.4	0.0	0.0	-0.1	-5.4	
1430314305	0.0	0.0	0.0	0.0	0.0	0.0	0.1	4.3	0.0	0.0	-0.1	-4.3	
230614306	0.0	0.0	0.0	0.0	0.1	0.0	2.7	135.5	-0.1	0.0	-2.7	-135.5	
1430514306	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	-2.1	
1431014306	0.0	0.0	0.0	0.0	0.0	0.0	0.2	7.4	0.0	0.0	-0.2	-7.4	
1430314307	0.0	0.0	0.0	0.0	0.0	0.0	0.4	23.9	0.0	0.0	-0.4	-23.9	
1431014308	0.0	0.0	0.0	0.0	0.0	0.0	0.4	22.6	0.0	0.0	-0.4	-22.6	
1430714309	0.0	0.0	0.0	0.0	0.0	0.0	0.5	29.9	0.0	0.0	-0.5	-29.9	
1430514309	0.0	0.0	0.0	0.0	0.0	0.0	0.3	13.6	0.0	0.0	-0.3	-13.6	
1431214310	0.0	0.0	0.0	0.0	0.0	0.0	0.6	33.9	0.0	0.0	-0.6	-33.9	
237414312	0.0	0.0	0.0	0.0	0.0	0.0	0.5	30.6	0.0	0.0	-0.5	-30.6	
Total	16.5	182.0	11,046.5	557,004.6	18.1	160.4							

9,724.0 493,172.1 -1.6 21.6 1,322.6 63,832.5

Costs and benefits discounted to 2010 in multiples of a thousand pounds.

[Section 3] Accident Rates

[Section 3.1] Link Accident Rates

Link Name	Accident Rate 2023	Accident Rate 2038

Accident rates are in accidents per million vehicle kilometres.

[Section 3.2] Junction Accident Rates

Junction Name	Coefficient 'a' 2023	Coefficient 'a' 2038

[Section 3.3] Combined Link and Junction Accident Rates

Link Name	Accident Rate 2023	Accident Rate 2038
12081202	0.143220	0.114668
12421208	0.539109	0.445665
74701242	0.539109	0.445665
100011276	0.539109	0.445665
100081316	0.063991	0.051784
95521316	0.143220	0.114668
100321318	0.539109	0.445665
101241340	0.395754	0.328904
13061344	0.539109	0.445665
13401394	0.539109	0.445665
100241396	0.539109	0.445665
13961410	0.539109	0.445665
14201412	0.539109	0.445665
76481412	0.539109	0.445665
14121416	0.395754	0.328904
14241418	0.395754	0.328904
14221420	0.539109	0.445665
14281422	0.539109	0.445665
14401424	0.395754	0.328904
14181428	0.539109	0.445665
14501440	0.395754	0.328904
17661450	0.539109	0.445665
14561454	0.395754	0.328904
14161456	0.395754	0.328904
15221490	0.539109	0.445665
16181490	0.539109	0.445665

15161498	0.539109	0.445665
101261502	0.539109	0.445665
16041522	0.539109	0.445665
15541544	0.395754	0.328904
15461548	0.395754	0.328904
60151556	0.539109	0.445665
15481562	0.395754	0.328904
15621568	0.395754	0.328904
15581580	0.539109	0.445665
74781604	0.539109	0.445665
18541622	0.539109	0.445665
79081696	0.539109	0.445665
15681744	0.143220	0.114668
17801758	0.539109	0.445665
18041764	0.395754	0.328904
17581764	0.539109	0.445665
60521766	0.143220	0.114668
17061768	0.539109	0.445665
17681794	0.539109	0.445665
18161804	0.395754	0.328904
18341816	0.395754	0.328904
18341828	0.395754	0.328904
76441848	0.143220	0.114668
17941848	0.143220	0.114668
79361854	0.143220	0.114668
16961866	0.539109	0.445665
18781874	0.539109	0.445665
101691878	0.539109	0.445665
19601956	0.539109	0.445665
76441956	0.143220	0.114668
95251960	0.539109	0.445665
19561962	0.539109	0.445665
19741970	0.395754	0.328904
19621974	0.395754	0.328904
90161994	0.063991	0.051784
19621994	0.539109	0.445665
20842002	0.395754	0.328904
20722012	0.063991	0.051784
20482030	0.539109	0.445665
19742030	0.539109	0.445665
20302034	0.539109	0.445665
20122034	0.143220	0.114668
100582038	0.395754	0.328904
20442038	0.539109	0.445665
20382044	0.539109	0.445665
20342046	0.539109	0.445665
20462058	0.539109	0.445665
20962066	0.063991	0.051784
19942070	0.063991	0.051784
21102072	0.063991	0.051784
90152076	0.063991	0.051784
73722084	0.395754	0.328904
76362086	0.539109	0.445665
95092086	0.539109	0.445665

21742088	0.539109	0.445665
95022088	0.539109	0.445665
100562096	0.395754	0.328904
20762096	0.063991	0.051784
79062102	0.539109	0.445665
95032106	0.063991	0.051784
21062108	0.395754	0.328904
21302110	0.063991	0.051784
95052110	0.539109	0.445665
21082112	0.539109	0.445665
21482130	0.395754	0.328904
21022170	0.539109	0.445665
20882174	0.539109	0.445665
74762174	0.539109	0.445665
73712182	0.539109	0.445665
22242198	0.539109	0.445665
22482218	0.063991	0.051784
74742220	0.539109	0.445665
22702224	0.539109	0.445665
21982224	0.539109	0.445665
22462244	0.395754	0.328904
90092246	0.395754	0.328904
22442252	0.395754	0.328904
22522260	0.395754	0.328904
95272270	0.539109	0.445665
75742270	0.539109	0.445665
22242270	0.539109	0.445665
22802272	0.539109	0.445665
22722274	0.539109	0.445665
76782280	0.143220	0.114668
22602280	0.539109	0.445665
23082306	0.063991	0.051784
60472308	0.539109	0.445665
60482308	0.063991	0.051784
95022308	0.539109	0.445665
24202310	0.539109	0.445665
60472312	0.063991	0.051784
23902316	0.539109	0.445665
24162316	0.143220	0.114668
95272316	0.539109	0.445665
23462324	0.539109	0.445665
23582346	0.539109	0.445665
23622358	0.395754	0.328904
23782358	0.063991	0.051784
23742372	0.395754	0.328904
23242372	0.063991	0.051784
23822374	0.395754	0.328904
23722378	0.395754	0.328904
74822380	0.539109	0.445665
23842382	0.395754	0.328904
24082382	0.143220	0.114668
23782384	0.395754	0.328904
23922390	0.395754	0.328904
23162390	0.539109	0.445665

23902392	0.395754	0.328904
23122392	0.063991	0.051784
76382406	0.143220	0.114668
24202408	0.143220	0.114668
23822408	0.143220	0.114668
75722416	0.143220	0.114668
23162416	0.143220	0.114668
74842420	0.539109	0.445665
24362420	0.539109	0.445665
24082420	0.143220	0.114668
24782436	0.063991	0.051784
24202436	0.539109	0.445665
74862478	0.143220	0.114668
24362478	0.063991	0.051784
24922482	0.539109	0.445665
74842482	0.539109	0.445665
24822492	0.539109	0.445665
74822492	0.539109	0.445665
25062508	0.395754	0.328904
24062516	0.143220	0.114668
25162520	0.395754	0.328904
25202536	0.063991	0.051784
25762546	0.539109	0.445665
76782546	0.143220	0.114668
25362568	0.063991	0.051784
90052576	0.539109	0.445665
25462576	0.539109	0.445665
25942592	0.539109	0.445665
95392592	0.063991	0.051784
75722594	0.143220	0.114668
25982596	0.395754	0.328904
75702596	0.143220	0.114668
26422598	0.143220	0.114668
25922598	0.395754	0.328904
26162610	0.539109	0.445665
75702610	0.143220	0.114668
26342616	0.143220	0.114668
26102616	0.539109	0.445665
75762634	0.539109	0.445665
26162634	0.143220	0.114668
90052638	0.539109	0.445665
26382640	0.143220	0.114668
27022642	0.143220	0.114668
25982642	0.143220	0.114668
26902676	0.539109	0.445665
75762676	0.539109	0.445665
60362690	0.539109	0.445665
26762690	0.539109	0.445665
26422702	0.143220	0.114668
27142706	0.539109	0.445665
27102708	0.395754	0.328904
75882710	0.539109	0.445665
27082712	0.395754	0.328904
25682712	0.063991	0.051784

27282714	0.539109	0.445665
27222720	0.395754	0.328904
27262722	0.395754	0.328904
27422722	0.063991	0.051784
73462724	0.395754	0.328904
27162724	0.395754	0.328904
26402728	0.539109	0.445665
73462740	0.539109	0.445665
27482740	0.539109	0.445665
28342742	0.063991	0.051784
28162744	0.395754	0.328904
27542748	0.539109	0.445665
27402748	0.539109	0.445665
75782750	0.143220	0.114668
60362750	0.143220	0.114668
27642754	0.539109	0.445665
27482754	0.539109	0.445665
27662762	0.539109	0.445665
27642762	0.539109	0.445665
27702764	0.539109	0.445665
27542764	0.539109	0.445665
27622764	0.539109	0.445665
27622766	0.539109	0.445665
75782766	0.539109	0.445665
75802770	0.539109	0.445665
27642770	0.539109	0.445665
27402792	0.539109	0.445665
75802792	0.539109	0.445665
27922804	0.539109	0.445665
28042808	0.539109	0.445665
28082816	0.539109	0.445665
22206015	0.143220	0.114668
16226016	0.539109	0.445665
13446018	0.539109	0.445665
27506036	0.143220	0.114668
26906036	0.539109	0.445665
23106047	0.063991	0.051784
95006048	0.063991	0.051784
60506049	0.395754	0.328904
24166049	0.539109	0.445665
60516050	0.539109	0.445665
23166050	0.539109	0.445665
75746051	0.539109	0.445665
60496051	0.539109	0.445665
18486052	0.143220	0.114668
27407346	0.539109	0.445665
27167346	0.539109	0.445665
22187371	0.063991	0.051784
73767372	0.395754	0.328904
73777376	0.395754	0.328904
21827377	0.539109	0.445665
12507470	0.539109	0.445665
23167474	0.539109	0.445665
21707476	0.539109	0.445665

74797478	0.539109	0.445665
24927482	0.539109	0.445665
23807482	0.539109	0.445665
24207484	0.539109	0.445665
24827484	0.539109	0.445665
95397486	0.143220	0.114668
24787486	0.143220	0.114668
26107570	0.143220	0.114668
25967570	0.143220	0.114668
25947572	0.143220	0.114668
24167572	0.143220	0.114668
60517574	0.539109	0.445665
26347576	0.539109	0.445665
26767576	0.539109	0.445665
27507578	0.143220	0.114668
27667578	0.539109	0.445665
27927580	0.539109	0.445665
27707580	0.539109	0.445665
27067588	0.539109	0.445665
20447616	0.539109	0.445665
20867636	0.539109	0.445665
100567636	0.395754	0.328904
20587638	0.143220	0.114668
19567644	0.143220	0.114668
18487644	0.143220	0.114668
60187648	0.539109	0.445665
13067656	0.539109	0.445665
60167672	0.539109	0.445665
22807678	0.143220	0.114668
25467678	0.143220	0.114668
18667906	0.539109	0.445665
79097908	0.539109	0.445665
18547936	0.143220	0.114668
15027944	0.539109	0.445665
26389005	0.539109	0.445665
25769005	0.539109	0.445665
22489009	0.395754	0.328904
20169014	0.395754	0.328904
20129015	0.143220	0.114668
20669016	0.063991	0.051784
23929500	0.063991	0.051784
95009501	0.539109	0.445665
23089502	0.539109	0.445665
95019502	0.539109	0.445665
20889502	0.539109	0.445665
20709503	0.063991	0.051784
100589509	0.395754	0.328904
20869509	0.539109	0.445665
17449525	0.539109	0.445665
23169527	0.539109	0.445665
22709527	0.539109	0.445665
25929539	0.063991	0.051784
74869539	0.143220	0.114668
13169552	0.143220	0.114668

12509552	0.539109	0.445665
130010001	0.539109	0.445665
149810008	0.395754	0.328904
141010021	0.539109	0.445665
1015410024	0.539109	0.445665
765610032	0.539109	0.445665
763610056	0.395754	0.328904
209610056	0.395754	0.328904
203810058	0.395754	0.328904
950910058	0.395754	0.328904
139410126	0.539109	0.445665
135810154	0.539109	0.445665
190210169	0.539109	0.445665
761610173	0.395754	0.328904
21482108	0.332336	0.274732
21062112	0.063991	0.051784
21402130	0.063991	0.051784
133022140	0.063991	0.051784
21082148	0.332336	0.274732
143062310	0.332336	0.274732
143092324	0.063991	0.051784
211213301	0.063991	0.051784
1430213302	0.063991	0.051784
1330114301	0.063991	0.051784
1430414302	0.063991	0.051784
1430114303	0.063991	0.051784
1430814304	0.063991	0.051784
1430614304	0.332336	0.274732
1430614305	0.332336	0.274732
1430314305	0.332336	0.274732
230614306	0.332336	0.274732
1430514306	0.332336	0.274732
1431014306	0.332336	0.274732
1430314307	0.063991	0.051784
1431014308	0.063991	0.051784
1430714309	0.063991	0.051784
1430514309	0.332336	0.274732
1431214310	0.063991	0.051784
237414312	0.063991	0.051784

Accident rates are in accidents per million vehicle kilometres.

[Section 4] Input Data - Scheme File

Scheme Name
Arundel Option 5B Analysis

Years Subsection
Current Year 2017
Base Year 2015
Without-Scheme

Year 1 2023
Year 2 2041
Year 3 0
Year 4 0
Year 5 0
With-Scheme
Year 1 2023
Year 2 2041
Year 3 0
Year 4 0
Year 5 0

Scheme Opening Year 2023

Link Input Section

Link Classification Subsection

Link Name	Road Type	Length (km)	Speed Limit (mph)	Error/Warning Summary (!=Error, #=Warning)

Link Flow Subsection

Link Name	Base Year Flows	Without-Scheme Flows Year 1	Year 2	Year 3	Year 4	Year 5	With-Scheme Flows Year 1	Year 2	Year 3	Year 4	Year 5

Link Local Accident Rate Subsection

Link Name	Observed Accidents	First Observed Accident Year	Local Severity Split Ratio	Year

Junction Input Section

Junction Classification Subsection

Junction Name	Junction Geometry	Highest Carriageway	Highest Standard	Speed Limit (mph)	Error/Warning Summary (!=Error, #=Warning)

Junction Flow Subsection

Base Year Flows

Junction Name	Arm 1 (Major)	Arm 2 (Minor)	Arm 3 (Major)	Arm 4 (Minor)	Arm 5 (Major)	Arm 6 (Minor)

Without-Scheme Year Flows

Junction Name	Year	Arm 1 (Major)	Arm 2 (Minor)	Arm 3 (Major)	Arm 4 (Minor)	Arm 5 (Major)	Arm 6 (Minor)

With-Scheme Year Flows

Junction Name	Year	Arm 1 (Major)	Arm 2 (Minor)	Arm 3 (Major)	Arm 4 (Minor)	Arm 5 (Major)

Junction Local Accident Rate Subsection

Junction Name	Observed Accidents	First Observed Accident Year	Local Severity Split Ratio	Year

Link and Junction Combined Input Section

Combined Classification Subsection

Link Name	Road Type	Length (km)	Speed Limit (mph)	Error/Warning Summary (!=Error, #=Warning)
12081202	8	0.08	50	
12421208	8	2.23	40	
74701242	8	0.42	40	
100011276	8	0.26	30	
100081316	12	0.73	60	
95521316	8	1.00	50	
100321318	8	0.34	30	
101241340	12	0.42	30	
13061344	8	0.34	30	
13401394	8	0.72	30	
100241396	8	0.17	30	
13961410	8	0.39	30	
14201412	8	0.04	30	
76481412	8	0.09	30	
14121416	12	0.02	30	
14241418	12	0.03	30	
14221420	8	0.87	40	
14281422	8	0.51	40	
14401424	12	0.02	30	
14181428	8	0.04	30	
14501440	12	0.04	30	
17661450	8	1.40	40	
14561454	12	0.02	30	
14161456	12	0.77	40	
15221490	8	0.42	40	
16181490	8	0.81	40	
15161498	8	0.91	40	
101261502	8	0.55	30	
16041522	8	0.63	40	
15541544	12	0.04	30	
15461548	12	0.03	30	
60151556	8	0.63	30	
15481562	12	0.02	30	
15621568	12	0.04	30	
15581580	8	0.56	30	
74781604	8	0.40	30	
18541622	8	1.36	40	
79081696	8	1.02	30	
15681744	8	0.76	50	
17801758	8	0.10	30	
18041764	12	0.35	30	
17581764	8	0.26	30	
60521766	8	0.20	50	
17061768	8	0.40	30	
17681794	8	0.54	40	
18161804	12	0.07	30	
18341816	12	0.03	30	
18341828	12	0.02	30	

76441848	8	0.81	60
17941848	8	0.22	50
79361854	8	0.44	50
16961866	8	0.66	30
18781874	8	0.02	30
101691878	8	0.35	30
19601956	8	0.04	30
76441956	8	0.84	60
95251960	8	0.87	40
19561962	8	0.03	30
19741970	12	0.03	30
19621974	12	0.02	30
90161994	12	0.52	60
19621994	8	0.57	40
20842002	12	0.93	40
20722012	12	0.83	60
20482030	8	0.03	30
19742030	8	0.16	30
20302034	8	0.03	30
20122034	8	0.61	60
100582038	12	0.45	40
20442038	8	0.40	40
20382044	8	0.40	40
20342046	8	0.02	30
20462058	8	0.03	30
20962066	12	1.93	60
19942070	12	1.81	60
21102072	12	2.87	60
90152076	12	0.52	60
73722084	12	0.85	40
76362086	8	0.29	40
95092086	8	0.03	40
21742088	8	0.72	30
95022088	8	0.60	30
100562096	12	0.29	40
20762096	12	1.85	60
79062102	8	0.48	30
95032106	12	2.07	60
21062108	12	0.06	30
21302110	12	1.80	60
95052110	8	3.15	30
21082112	8	0.03	30
21482130	12	0.09	30
21022170	8	0.38	30
20882174	8	0.72	30
74762174	8	0.22	30
73712182	8	0.06	40
22242198	8	0.32	40
22482218	12	0.13	70
74742220	8	0.37	30
22702224	8	0.47	40
21982224	8	0.32	40
22462244	12	0.03	30
90092246	12	0.32	30

22442252	12	0.05	30
22522260	12	0.03	30
95272270	8	0.47	40
75742270	8	0.33	40
22242270	8	0.47	40
22802272	8	0.10	30
22722274	8	0.03	30
76782280	8	1.91	50
22602280	8	0.12	30
23082306	12	0.32	60
60472308	8	0.05	30
60482308	12	0.05	60
95022308	8	0.60	40
24202310	8	0.92	40
60472312	12	0.05	60
23902316	8	0.71	40
24162316	8	0.73	60
95272316	8	0.47	40
23462324	8	0.86	30
23582346	8	0.02	30
23622358	12	0.03	30
23782358	12	0.64	60
23742372	12	0.02	30
23242372	12	0.34	60
23822374	12	0.02	30
23722378	12	0.02	30
74822380	8	0.83	40
23842382	12	0.02	30
24082382	8	0.82	60
23782384	12	0.02	30
23922390	12	1.02	40
23162390	8	0.71	40
23902392	12	1.02	40
23122392	12	2.44	60
76382406	8	0.78	60
24202408	8	0.34	60
23822408	8	0.82	60
75722416	8	1.37	60
23162416	8	0.73	60
74842420	8	0.60	30
24362420	8	0.38	40
24082420	8	0.34	60
24782436	12	0.75	50
24202436	8	0.38	40
74862478	8	2.06	50
24362478	12	0.75	50
24922482	8	1.84	40
74842482	8	0.69	30
24822492	8	1.84	40
74822492	8	0.75	40
25062508	12	0.02	30
24062516	8	3.63	60
25162520	12	0.04	30
25202536	12	0.46	60

25762546	8	1.41	40
76782546	8	1.62	50
25362568	12	0.95	60
90052576	8	1.74	30
25462576	8	1.41	40
25942592	8	0.04	30
95392592	12	0.10	50
75722594	8	1.98	60
25982596	12	0.05	30
75702596	8	0.88	50
26422598	8	1.93	60
25922598	12	0.11	30
26162610	8	0.23	30
75702610	8	0.78	50
26342616	8	1.27	60
26102616	8	0.23	30
75762634	8	0.50	40
26162634	8	1.27	60
90052638	8	0.95	30
26382640	8	0.14	50
27022642	8	0.73	50
25982642	8	1.93	60
26902676	8	0.33	40
75762676	8	0.45	40
60362690	8	3.66	40
26762690	8	0.33	40
26422702	8	0.73	50
27142706	8	0.52	30
27102708	12	0.02	30
75882710	8	0.67	30
27082712	12	0.04	30
25682712	12	2.93	60
27282714	8	0.95	30
27222720	12	0.03	30
27262722	12	0.04	30
27422722	12	0.64	60
73462724	12	0.04	30
27162724	12	0.04	30
26402728	8	3.00	40
73462740	8	2.16	40
27482740	8	0.48	40
28342742	12	4.30	60
28162744	12	1.93	40
27542748	8	0.26	30
27402748	8	0.48	40
75782750	8	0.37	60
60362750	8	0.90	60
27642754	8	0.30	30
27482754	8	0.26	30
27662762	8	0.45	30
27642762	8	0.05	30
27702764	8	0.28	30
27542764	8	0.30	30
27622764	8	0.05	30

27622766	8	0.45	30
75782766	8	0.35	30
75802770	8	0.35	30
27642770	8	0.28	30
27402792	8	1.04	40
75802792	8	0.46	30
27922804	8	0.22	30
28042808	8	0.20	30
28082816	8	0.83	40
22206015	8	2.18	50
16226016	8	0.17	30
13446018	8	0.14	30
27506036	8	0.90	60
26906036	8	3.66	40
23106047	12	0.29	60
95006048	12	1.23	60
60506049	12	0.04	30
24166049	8	0.79	30
60516050	8	0.04	30
23166050	8	0.44	30
75746051	8	0.38	30
60496051	8	0.06	30
18486052	8	0.22	50
27407346	8	2.16	40
27167346	8	0.04	30
22187371	12	0.62	60
73767372	12	0.05	40
73777376	12	0.03	40
21827377	8	0.02	40
12507470	8	0.38	40
23167474	8	0.41	30
21707476	8	0.18	30
74797478	8	0.71	30
24927482	8	0.75	40
23807482	8	0.83	40
24207484	8	0.60	30
24827484	8	0.69	30
95397486	8	2.49	50
24787486	8	2.06	50
26107570	8	0.78	50
25967570	8	0.88	50
25947572	8	1.98	60
24167572	8	1.37	60
60517574	8	0.38	30
26347576	8	0.50	40
26767576	8	0.45	40
27507578	8	0.37	60
27667578	8	0.35	30
27927580	8	0.46	30
27707580	8	0.35	30
27067588	8	0.57	30
20447616	8	0.99	30
20867636	8	0.29	40
100567636	12	0.19	40

20587638	8	0.95	60
19567644	8	0.84	60
18487644	8	0.81	60
60187648	8	0.08	30
13067656	8	0.33	30
60167672	8	0.23	30
22807678	8	1.91	50
25467678	8	1.62	50
18667906	8	0.48	30
79097908	8	0.21	30
18547936	8	0.44	50
15027944	8	0.53	30
26389005	8	0.95	30
25769005	8	1.74	30
22489009	12	0.23	40
20169014	12	0.04	40
20129015	8	0.60	60
20669016	12	0.49	60
23929500	12	1.23	60
95009501	8	0.65	40
23089502	8	0.60	40
95019502	8	0.65	40
20889502	8	0.60	30
20709503	12	1.69	60
100589509	12	0.75	40
20869509	8	0.03	40
17449525	8	0.87	40
23169527	8	0.47	40
22709527	8	0.47	40
25929539	12	0.10	50
74869539	8	2.49	50
13169552	8	1.00	50
12509552	8	0.50	40
130010001	8	0.12	30
149810008	12	0.10	40
141010021	8	0.34	30
1015410024	8	0.04	30
765610032	8	0.27	30
763610056	12	0.19	40
209610056	12	0.29	40
203810058	12	0.45	40
950910058	12	0.75	40
139410126	8	0.12	30
135810154	8	0.65	30
190210169	8	0.21	30
761610173	12	0.64	40
21482108	4	0.10	30
21062112	10	0.50	60
21402130	10	0.50	60
133022140	10	2.20	70
21082148	4	0.10	30
143062310	4	0.55	40
143092324	10	0.35	60
211213301	10	3.05	70

1430213302	10	2.10	70
1330114301	10	2.10	70
1430414302	10	1.10	70
1430114303	10	1.20	70
1430814304	10	0.30	70
1430614304	4	0.30	40
1430614305	4	0.10	30
1430314305	4	0.20	40
230614306	4	0.55	40
1430514306	4	0.10	30
1431014306	4	0.25	40
1430314307	10	0.20	70
1431014308	10	0.25	70
1430714309	10	0.25	70
1430514309	4	0.25	40
1431214310	10	0.35	60
237414312	10	0.32	60

Combined Flow Subsection

Link Name	Base Year Flows	Without-Scheme Flows Year 1	Year 2	Year 3	Year 4	Year 5	With-Scheme Flows Year 1	Year 2	Year 3	Year 4	Year 5
12081202	871	813	12,070	0	0	0	1,094	13,852	0	0	0
12421208	864	759	11,147	0	0	0	1,012	13,037	0	0	0
74701242	1,062	1,017	14,986	0	0	0	1,281	16,763	0	0	0
100011276	351	480	6,902	0	0	0	517	5,284	0	0	0
100081316	701	876	13,210	0	0	0	678	10,896	0	0	0
95521316	1,168	1,756	26,136	0	0	0	1,593	23,687	0	0	0
100321318	179	323	4,515	0	0	0	266	2,883	0	0	0
101241340	609	572	13,295	0	0	0	900	14,889	0	0	0
13061344	240	256	2,561	0	0	0	381	4,175	0	0	0
13401394	580	549	12,796	0	0	0	879	14,430	0	0	0
100241396	533	604	6,959	0	0	0	617	4,483	0	0	0
13961410	347	434	4,705	0	0	0	425	2,897	0	0	0
14201412	1,751	2,019	29,717	0	0	0	1,584	25,354	0	0	0
76481412	194	221	2,186	0	0	0	349	3,863	0	0	0
14121416	1,488	1,732	24,726	0	0	0	1,481	22,474	0	0	0
14241418	1,403	1,587	23,502	0	0	0					

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1,395   20,625  0       0       0
    14221420        1,116           1,318   19,856  0       0       0
1,009   16,357  0       0       0
    14281422        1,195           1,386   20,509  0       0       0
1,207   18,254  0       0       0
    14401424        88              197     2,492   0       0       0       71
   908     0       0       0
    14181428        1,496           1,687   25,649  0       0       0
1,568   23,483  0       0       0
    14501440        1,373           1,488   26,490  0       0       0
1,535   24,852  0       0       0
    17661450        89              203     2,586   0       0       0       71
   937     0       0       0
    14561454        1,363           1,728   25,674  0       0       0
1,505   24,032  0       0       0
    14161456        1,353           1,673   23,914  0       0       0
1,419   21,773  0       0       0
    15221490        80              572     9,355   0       0       0       467
   6,681   0       0       0
    16181490        56              181     3,138   0       0       0       411
   4,660   0       0       0
    15161498        808             1,153   16,147  0       0       0
1,044   14,487  0       0       0
    101261502       1,110           1,022   19,081  0       0       0
1,429   21,051  0       0       0
    16041522        80              572     9,355   0       0       0       467
   6,681   0       0       0
    15541544        1,795           1,843   29,360  0       0       0
2,120   30,915  0       0       0
    15461548        1,692           1,765   26,798  0       0       0
2,103   28,976  0       0       0
    60151556        252             624     6,640   0       0       0       993
   9,942   0       0       0
    15481562        434             502     8,303   0       0       0       883
   10,959  0       0       0
    15621568        1,733           1,811   32,357  0       0       0
2,365   34,947  0       0       0
    15581580        576             515     10,558  0       0       0       748
   12,176  0       0       0
    74781604        80              572     9,355   0       0       0       467
   6,681   0       0       0
    18541622        576             2       353     0       0       0       151
   2,016   0       0       0
    79081696        20              231     3,978   0       0       0       366
   6,704   0       0       0
    15681744        254             324     5,979   0       0       0       696
   8,288   0       0       0
    17801758        490             485     9,096   0       0       0       671
   10,926  0       0       0
    18041764        560             500     8,897   0       0       0       449
   7,024   0       0       0
    17581764        361             327     6,102   0       0       0       422
   7,754   0       0       0
    60521766        89              203     2,586   0       0       0       71
```

```
   937     0       0       0
    17061768        475             355     5,553   0       0       0       302
   3,845   0       0       0
    17681794        475             355     5,553   0       0       0       302
   3,845   0       0       0
    18161804        1,100           1,009   16,592  0       0       0       901
   14,373  0       0       0
    18341816        1,100           1,009   16,591  0       0       0       901
   14,373  0       0       0
    18341828        872             888     13,780  0       0       0
1,108   15,682  0       0       0
    76441848        721             822     10,513  0       0       0       515
   7,569   0       0       0
    17941848        501             441     6,830   0       0       0       399
   5,200   0       0       0
    79361854        576             194     7,120   0       0       0
1,023   13,720  0       0       0
    16961866        0               215     3,552   0       0       0       361
   6,109   0       0       0
    18781874        627             533     10,485  0       0       0       777
   12,810  0       0       0
    101691878       119             92      1,937   0       0       0       209
   4,082   0       0       0
    19601956        1,439           1,630   24,326  0       0       0
1,962   26,746  0       0       0
    76441956        533             559     9,107   0       0       0       532
   7,468   0       0       0
    95251960        389             615     9,890   0       0       0
1,036   12,492  0       0       0
    19561962        1,240           1,176   21,189  0       0       0
1,779   24,864  0       0       0
    19741970        1,451           1,449   23,213  0       0       0
1,705   24,889  0       0       0
    19621974        646             647     11,187  0       0       0       599
   8,641   0       0       0
    90161994        844             1,053   15,184  0       0       0
1,425   17,987  0       0       0
    19621994        594             529     10,003  0       0       0
1,180   16,223  0       0       0
    20842002        1,576           1,470   24,175  0       0       0
1,777   26,210  0       0       0
    20722012        1,229           1,364   22,403  0       0       0
2,673   40,078  0       0       0
    20482030        1,387           1,276   20,719  0       0       0
1,522   22,267  0       0       0
    19742030        581             473     8,510   0       0       0       394
   5,653   0       0       0
    20302034        582             474     8,583   0       0       0       394
   5,705   0       0       0
    20122034        464             482     8,458   0       0       0
1,189   18,397  0       0       0
    100582038       1,101           1,228   19,551  0       0       0
1,637   23,190  0       0       0
    20442038        1,258           1,571   19,759  0       0       0
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1,641   21,368  0       0       0
    20382044        1,120           1,264   20,031  0       0       0
1,667   22,427  0       0       0
    20342046        1,046           956     17,041  0       0       0
1,583   24,102  0       0       0
    20462058        1,065           969     17,373  0       0       0
1,606   24,504  0       0       0
    20962066        1,046           1,348   18,912  0       0       0
1,567   20,980  0       0       0
    19942070        1,438           1,582   25,187  0       0       0
2,605   34,209  0       0       0
    21102072        1,237           1,366   22,433  0       0       0
2,684   40,207  0       0       0
    90152076        765             882     13,945  0       0       0
1,484   21,681  0       0       0
    73722084        1,576           1,470   24,175  0       0       0
1,777   26,210  0       0       0
    76362086        1,009           1,120   17,795  0       0       0
1,665   23,642  0       0       0
    95092086        1,205           1,556   20,902  0       0       0
1,654   22,540  0       0       0
    21742088        11              4       1,735   0       0       0       561
   9,751   0       0       0
    95022088        170             96      1,446   0       0       0
1,193   10,380  0       0       0
    100562096       1,046           1,348   18,912  0       0       0
1,567   20,980  0       0       0
    20762096        988             1,116   17,764  0       0       0
1,706   24,077  0       0       0
    79062102        0               215     3,552   0       0       0       361
   6,109   0       0       0
    95032106        1,476           1,507   23,885  0       0       0
2,686   34,776  0       0       0
    21062108        1,782           1,238   23,355  0       0       0       960
   10,421  0       0       0
    21302110        1,227           1,341   20,156  0       0       0
2,678   40,036  0       0       0
    95052110        5               17      2,066   0       0       0       1
   0       0       0       0
    21082112        1,194           1,046   16,583  0       0       0       238
   2,487   0       0       0
    21482130        1,564           1,502   23,579  0       0       0       846
   12,001  0       0       0
    21022170        0               215     3,552   0       0       0       361
   6,109   0       0       0
    20882174        43              16      0       0       0       0       968
   8,859   0       0       0
    74762174        26              360     7,878   0       0       0       561
   9,751   0       0       0
    73712182        1,440           1,330   23,757  0       0       0
1,665   25,755  0       0       0
    22242198        1,540           1,712   25,533  0       0       0
1,286   16,373  0       0       0
    22482218        1,189           1,074   20,324  0       0       0
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1,508   22,995  0       0       0
    74742220        252             624     6,639   0       0       0       993
   9,942   0       0       0
    22702224        1,556           1,734   27,438  0       0       0
1,290   16,223  0       0       0
    21982224        1,437           1,500   21,900  0       0       0
1,312   12,582  0       0       0
    22462244        1,064           1,202   21,156  0       0       0
1,180   18,145  0       0       0
    90092246        433             582     10,863  0       0       0       487
   8,082   0       0       0
    22442252        633             745     13,116  0       0       0       656
   10,913  0       0       0
    22522260        1,047           1,229   21,157  0       0       0
1,175   18,024  0       0       0
    95272270        1,248           1,160   17,133  0       0       0       900
   12,538  0       0       0
    75742270        346             613     10,771  0       0       0       420
   4,057   0       0       0
    22242270        1,459           1,579   22,470  0       0       0
1,327   12,508  0       0       0
    22802272        942             985     19,171  0       0       0
1,005   16,334  0       0       0
    22722274        994             1,014   19,805  0       0       0
1,046   17,007  0       0       0
    76782280        942             985     19,173  0       0       0
1,005   16,334  0       0       0
    22602280        996             1,199   20,522  0       0       0
1,134   17,352  0       0       0
    23082306        1,298           1,416   20,407  0       0       0       845
   13,496  0       0       0
    60472308        196             135     2,440   0       0       0       548
   7,192   0       0       0
    60482308        1,271           1,329   18,887  0       0       0       299
   2,596   0       0       0
    95022308        0               49      525     0       0       0       672
   10,191  0       0       0
    24202310        39              40      1,767   0       0       0       506
   6,791   0       0       0
    60472312        1,006           1,122   16,325  0       0       0       127
   1,292   0       0       0
    23902316        1,006           1,122   17,099  0       0       0       127
   1,585   0       0       0
    24162316        511             428     4,230   0       0       0
1,207   14,084  0       0       0
    95272316        1,311           921     16,911  0       0       0       852
   8,650   0       0       0
    23462324        0               0       5,487   0       0       0       0
   2,304   0       0       0
    23582346        1,739           1,995   33,290  0       0       0
1,995   31,408  0       0       0
    23622358        38              112     8,127   0       0       0       377
   6,042   0       0       0
    23782358        1,701           1,885   25,998  0       0       0
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1,964   27,814  0       0       0
    23742372        506             1,159   15,469  0       0       0       37
   430     0       0       0
    23242372        1,210           1,079   21,932  0       0       0
1,930   30,658  0       0       0
    23822374        1,669           2,375   32,468  0       0       0
1,530   22,338  0       0       0
    23722378        1,715           2,237   37,109  0       0       0
1,967   30,119  0       0       0
    74822380        39              117     1,145   0       0       0       405
   3,238   0       0       0
    23842382        1,633           2,118   33,442  0       0       0
1,935   26,184  0       0       0
    24082382        504             1,113   14,946  0       0       0       41
   476     0       0       0
    23782384        14              353     11,111  0       0       0       3
   2,305   0       0       0
    23922390        1,006           1,122   17,099  0       0       0       127
   1,585   0       0       0
    23162390        1,281           1,333   18,563  0       0       0       829
   6,846   0       0       0
    23902392        1,281           1,333   18,563  0       0       0       829
   6,846   0       0       0
    23122392        1,006           1,122   17,099  0       0       0       127
   1,585   0       0       0
    76382406        463             294     7,107   0       0       0       851
   13,538  0       0       0
    24202408        513             1,119   15,029  0       0       0       47
   581     0       0       0
    23822408        468             855     15,921  0       0       0       434
   4,133   0       0       0
    75722416        519             589     7,152   0       0       0
1,273   14,914  0       0       0
    23162416        193             193     1,873   0       0       0       399
   6,569   0       0       0
    74842420        9               0       87      0       0       0       11
   2,522   0       0       0
    24362420        545             1,160   16,886  0       0       0       825
   9,389   0       0       0
    24082420        477             862     16,035  0       0       0       440
   4,256   0       0       0
    24782436        536             1,155   16,851  0       0       0       825
   9,389   0       0       0
    24202436        472             860     16,102  0       0       0       440
   6,546   0       0       0
    74862478        536             1,155   16,851  0       0       0       825
   9,389   0       0       0
    24362478        472             860     17,818  0       0       0       440
   7,748   0       0       0
    24922482        0               0       87      0       0       0       3
   2,483   0       0       0
    74842482        6               3       110     0       0       0       289
   2,259   0       0       0
    24822492        6               3       110     0       0       0       289
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   2,259   0       0       0
    74822492        8               6       295     0       0       0       10
   2,691   0       0       0
    25062508        699             543     9,761   0       0       0       769
   11,288  0       0       0
    24062516        451             280     6,729   0       0       0       850
   13,312  0       0       0
    25162520        1,218           968     17,542  0       0       0
1,564   23,449  0       0       0
    25202536        1,184           937     16,729  0       0       0
1,500   21,900  0       0       0
    25762546        735             795     17,606  0       0       0       841
   15,235  0       0       0
    76782546        996             1,199   20,523  0       0       0
1,134   17,352  0       0       0
    25362568        1,184           937     16,729  0       0       0
1,500   21,900  0       0       0
    90052576        619             678     15,553  0       0       0       805
   13,313  0       0       0
    25462576        813             1,068   19,564  0       0       0
1,029   16,825  0       0       0
    25942592        896             1,460   21,041  0       0       0
1,388   16,710  0       0       0
    95392592        472             868     17,950  0       0       0       442
   7,842   0       0       0
    75722594        310             245     3,591   0       0       0       474
   6,265   0       0       0
    25982596        918             1,348   23,387  0       0       0
1,345   17,004  0       0       0
    75702596        533             1,074   14,919  0       0       0
1,096   12,352  0       0       0
    26422598        541             701     9,818   0       0       0
1,048   12,276  0       0       0
    25922598        823             1,164   22,010  0       0       0       994
   15,014  0       0       0
    26162610        533             1,074   14,921  0       0       0
1,096   12,352  0       0       0
    75702610        388             723     13,832  0       0       0       364
   5,395   0       0       0
    26342616        560             1,130   14,870  0       0       0
1,130   12,186  0       0       0
    26102616        388             723     13,832  0       0       0       364
   5,395   0       0       0
    75762634        560             1,130   14,870  0       0       0
1,130   12,186  0       0       0
    26162634        416             795     14,592  0       0       0       441
   6,106   0       0       0
    90052638        577             864     15,519  0       0       0       813
   12,570  0       0       0
    26382640        661             956     17,083  0       0       0       941
   14,004  0       0       0
    27022642        541             701     9,818   0       0       0
1,048   12,276  0       0       0
    25982642        446             518     8,442   0       0       0       697
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   10,286  0       0       0
    26902676        560             1,130   14,870  0       0       0
1,130   12,186  0       0       0
    75762676        416             795     14,591  0       0       0       441
   6,105   0       0       0
    60362690        560             1,130   14,870  0       0       0
1,130   12,186  0       0       0
    26762690        416             795     14,591  0       0       0       441
   6,105   0       0       0
    26422702        446             518     8,442   0       0       0       697
   10,286  0       0       0
    27142706        599             912     16,171  0       0       0       865
   13,056  0       0       0
    27102708        2,434           2,892   42,566  0       0       0
2,845   38,988  0       0       0
    75882710        599             912     16,171  0       0       0       865
   13,056  0       0       0
    27082712        784             1,468   21,254  0       0       0
1,311   16,516  0       0       0
    25682712        1,184           937     16,729  0       0       0
1,500   21,900  0       0       0
    27282714        599             912     16,171  0       0       0       865
   13,056  0       0       0
    27222720        2,125           2,333   36,075  0       0       0
2,406   33,356  0       0       0
    27262722        509             525     12,350  0       0       0       569
   9,675   0       0       0
    27422722        1,616           1,820   25,993  0       0       0
1,935   24,126  0       0       0
    73462724        653             950     12,892  0       0       0       378
   5,879   0       0       0
    27162724        1,362           1,086   20,763  0       0       0
1,725   26,138  0       0       0
    26402728        572             882     16,047  0       0       0       833
   12,722  0       0       0
    73462740        606             1,319   17,219  0       0       0
1,086   12,125  0       0       0
    27482740        464             782     9,247   0       0       0       233
   3,221   0       0       0
    28342742        1,787           2,008   31,518  0       0       0
2,261   29,715  0       0       0
    28162744        0               2       5,371   0       0       0       194
   2,601   0       0       0
    27542748        394             773     8,839   0       0       0       218
   2,906   0       0       0
    27402748        595             1,065   13,488  0       0       0
1,070   11,586  0       0       0
    75782750        560             1,130   14,870  0       0       0
1,130   12,186  0       0       0
    60362750        416             795     14,591  0       0       0       441
   6,105   0       0       0
    27642754        394             773     8,839   0       0       0       218
   2,906   0       0       0
    27482754        536             1,104   13,605  0       0       0
```

```
1,106   11,711  0       0       0
    27662762        416             795     14,591  0       0       0       441
   6,105   0       0       0
    27642762        560             1,190   16,235  0       0       0
1,143   12,321  0       0       0
    27702764        24              130     3,068   0       0       0       38
   641     0       0       0
    27542764        536             1,104   13,605  0       0       0
1,106   11,711  0       0       0
    27622764        416             795     14,591  0       0       0       441
   6,105   0       0       0
    27622766        560             1,272   15,903  0       0       0
1,143   12,321  0       0       0
    75782766        416             795     14,591  0       0       0       441
   6,105   0       0       0
    75802770        24              274     4,235   0       0       0       38
   641     0       0       0
    27642770        22              23      5,751   0       0       0       223
   3,199   0       0       0
    27402792        11              254     3,732   0       0       0       16
   539     0       0       0
    75802792        22              22      5,751   0       0       0       223
   3,199   0       0       0
    27922804        34              26      5,751   0       0       0       239
   3,738   0       0       0
    28042808        12              13      5,475   0       0       0       211
   2,789   0       0       0
    28082816        0               2       5,361   0       0       0       194
   2,591   0       0       0
    22206015        252             624     6,639   0       0       0       993
   9,942   0       0       0
    16226016        587             28      613     0       0       0       158
   2,133   0       0       0
    13446018        162             191     1,792   0       0       0       313
   3,489   0       0       0
    27506036        560             1,130   14,870  0       0       0
1,130   12,186  0       0       0
    26906036        416             795     14,591  0       0       0       441
   6,105   0       0       0
    23106047        1,202           1,257   18,765  0       0       0       690
   8,556   0       0       0
    95006048        1,281           1,333   21,412  0       0       0       299
   4,092   0       0       0
    60506049        186             333     7,162   0       0       0       180
   1,678   0       0       0
    24166049        8               161     2,921   0       0       0       66
   830     0       0       0
    60516050        192             683     6,046   0       0       0       545
   4,498   0       0       0
    23166050        28              231     5,486   0       0       0       26
   426     0       0       0
    75746051        192             683     6,046   0       0       0       545
   4,498   0       0       0
    60496051        35              371     8,271   0       0       0       91
```

```
   1,250   0       0       0
    18486052        721             822     10,513  0       0       0       515
   7,569   0       0       0
    27407346        653             950     12,892  0       0       0       378
   5,879   0       0       0
    27167346        606             1,319   17,219  0       0       0
1,086   12,125  0       0       0
    22187371        1,440           1,330   23,757  0       0       0
1,665   25,755  0       0       0
    73767372        1,576           1,470   24,173  0       0       0
1,777   26,211  0       0       0
    73777376        1,512           1,404   24,213  0       0       0
1,711   26,188  0       0       0
    21827377        1,512           1,404   24,213  0       0       0
1,711   26,188  0       0       0
    12507470        1,062           1,017   14,986  0       0       0
1,281   16,763  0       0       0
    23167474        347             655     7,083   0       0       0
1,121   11,392  0       0       0
    21707476        0               341     7,409   0       0       0       539
   9,282   0       0       0
    74797478        60              556     8,795   0       0       0       462
   6,085   0       0       0
    24927482        40              118     1,245   0       0       0       409
   3,334   0       0       0
    23807482        8               6       208     0       0       0       8
   2,607   0       0       0
    24207484        6               3       110     0       0       0       289
   2,259   0       0       0
    24827484        0               0       87      0       0       0       3
   2,483   0       0       0
    95397486        545             1,163   16,981  0       0       0       836
   9,539   0       0       0
    24787486        472             860     17,818  0       0       0       440
   7,748   0       0       0
    26107570        533             1,074   14,919  0       0       0
1,096   12,352  0       0       0
    25967570        388             723     13,832  0       0       0       364
   5,395   0       0       0
    25947572        477             483     7,025   0       0       0
1,162   13,515  0       0       0
    24167572        351             316     3,685   0       0       0       554
   7,827   0       0       0
    60517574        35              371     8,271   0       0       0       91
   1,250   0       0       0
    26347576        416             795     14,591  0       0       0       441
   6,106   0       0       0
    26767576        560             1,130   14,870  0       0       0
1,130   12,186  0       0       0
    27507578        416             795     14,591  0       0       0       441
   6,105   0       0       0
    27667578        560             1,130   14,870  0       0       0
1,130   12,186  0       0       0
    27927580        24              274     4,235   0       0       0       38
```

641 0 0 0
27707580 22 22 5,751 0 0 0 223
3,199 0 0 0
27067588 599 912 16,171 0 0 0 865
13,056 0 0 0
20447616 917 787 14,788 0 0 0 805
13,150 0 0 0
20867636 1,097 1,352 19,161 0 0 0
1,548 21,035 0 0 0
100567636 1,009 1,120 17,795 0 0 0
1,665 23,642 0 0 0
20587638 498 322 7,609 0 0 0 875
13,989 0 0 0
19567644 733 1,014 12,244 0 0 0 716
9,350 0 0 0
18487644 501 441 6,830 0 0 0 399
5,200 0 0 0
60187648 162 191 1,792 0 0 0 313
3,489 0 0 0
13067656 232 397 5,294 0 0 0 299
3,215 0 0 0
60167672 587 28 613 0 0 0 158
2,133 0 0 0
22807678 996 1,199 20,523 0 0 0
1,134 17,352 0 0 0
25467678 942 985 19,173 0 0 0
1,005 16,334 0 0 0
18667906 0 215 3,552 0 0 0 361
6,109 0 0 0
79097908 13 219 3,474 0 0 0 372
6,183 0 0 0
18547936 270 639 8,604 0 0 0 925
10,770 0 0 0
15027944 975 907 17,611 0 0 0
1,272 19,464 0 0 0
26389005 470 542 13,229 0 0 0 627
11,107 0 0 0
25769005 740 1,009 17,761 0 0 0
1,005 15,106 0 0 0
22489009 433 582 10,863 0 0 0 487
8,082 0 0 0
20169014 1,423 1,259 21,421 0 0 0
1,371 22,953 0 0 0
20129015 765 882 13,945 0 0 0
1,484 21,681 0 0 0
20669016 844 1,053 15,184 0 0 0
1,425 17,987 0 0 0
23929500 1,281 1,333 18,562 0 0 0 829
6,846 0 0 0
95009501 0 0 0 0 0 0 530
4,252 0 0 0
23089502 170 96 1,446 0 0 0 663
6,128 0 0 0
95019502 0 0 0 0 0 0 530

```
   4,252   0       0       0
    20889502        0               49      3,375   0       0       0       672
   11,688  0       0       0
    20709503        1,493           1,604   24,741  0       0       0
2,699   34,791  0       0       0
    100589509       1,177           1,524   19,930  0       0       0
1,611   21,636  0       0       0
    20869509        1,044           1,174   18,470  0       0       0
1,606   22,761  0       0       0
    17449525        388             613     9,899   0       0       0
1,035   12,507  0       0       0
    23169527        1,263           1,174   17,787  0       0       0       917
   13,064  0       0       0
    22709527        1,328           911     16,862  0       0       0       850
   8,679   0       0       0
    25929539        545             1,163   16,981  0       0       0       836
   9,539   0       0       0
    74869539        472             868     17,950  0       0       0       442
   7,842   0       0       0
    13169552        1,051           1,766   22,069  0       0       0
1,512   18,844  0       0       0
    12509552        1,168           1,756   26,136  0       0       0
1,593   23,687  0       0       0
    130010001       351             480     6,902   0       0       0       517
   5,284   0       0       0
    149810008       808             1,153   16,147  0       0       0
1,044   14,487  0       0       0
    141010021       295             403     4,352   0       0       0       392
   2,573   0       0       0
    1015410024      557             620     7,690   0       0       0       625
   5,188   0       0       0
    765610032       193             355     4,983   0       0       0       260
   3,009   0       0       0
    763610056       1,097           1,352   19,161  0       0       0
1,548   21,035  0       0       0
    209610056       988             1,116   17,764  0       0       0
1,706   24,077  0       0       0
    203810058       1,236           1,562   19,883  0       0       0
1,667   21,677  0       0       0
    950910058       1,065           1,198   18,927  0       0       0
1,602   22,724  0       0       0
    139410126       1,021           939     18,293  0       0       0
1,335   20,282  0       0       0
    135810154       530             594     7,551   0       0       0       589
   5,015   0       0       0
    190210169       77              68      1,597   0       0       0       186
   3,779   0       0       0
    761610173       868             747     13,475  0       0       0       770
   11,885  0       0       0
    21482108        0               0       0       0       0       0       429
   742     0       0       0
    21062112        0               0       0       0       0       0
1,593   1,758   0       0       0
    21402130        0               0       0       0       0       0
```

```
1,875   1,882   0       0       0
    133022140       0               0       0       0       0       0
2,042   2,059   0       0       0
    21082148        0               0       0       0       0       0       489
   1,458   0       0       0
    143062310       0               0       0       0       0       0       97
   219     0       0       0
    143092324       0               0       0       0       0       0
1,963   2,059   0       0       0
    211213301       0               0       0       0       0       0
1,690   1,989   0       0       0
    1430213302      0               0       0       0       0       0
2,042   2,059   0       0       0
    1330114301      0               0       0       0       0       0
1,690   1,989   0       0       0
    1430414302      0               0       0       0       0       0
2,042   2,059   0       0       0
    1430114303      0               0       0       0       0       0
1,690   1,989   0       0       0
    1430814304      0               0       0       0       0       0
1,450   1,381   0       0       0
    1430614304      0               0       0       0       0       0       592
   677     0       0       0
    1430614305      0               0       0       0       0       0       277
   165     0       0       0
    1430314305      0               0       0       0       0       0       4
   95      0       0       0
    230614306       0               0       0       0       0       0       914
   847     0       0       0
    1430514306      0               0       0       0       0       0       4
   95      0       0       0
    1431014306      0               0       0       0       0       0       49
   119     0       0       0
    1430314307      0               0       0       0       0       0
1,686   1,894   0       0       0
    1431014308      0               0       0       0       0       0
1,450   1,381   0       0       0
    1430714309      0               0       0       0       0       0
1,686   1,894   0       0       0
    1430514309      0               0       0       0       0       0       277
   165     0       0       0
    1431214310      0               0       0       0       0       0
1,498   1,500   0       0       0
    237414312       0               0       0       0       0       0
1,498   1,500   0       0       0
```

Combined Local Accident Rate Subsection

Link Name	Observed Accidents	First Observed Accident Year	Local Severity Ratio	Split Year

[Section 5] Input Data - Parameter File

COBALT Parameter File

Version 2,016.10

Cost Base Year
2010

Appraisal Period
60

Discount Rate

Years from Current Year	Discount Rate (%)
30	3.50
75	3.00
125	2.50

Cost per Casualty

Severity	Cost
Fatal	1,635,937
Serious	183,834
Slight	14,172

Cost per Accident

Severity	Insurance Administration	Damage to Property Urban	Rural	Motorway
Fatal	300	7,822	13,267	16,876
Serious	187	4,192	6,048	14,400
Slight	113	2,473	4,009	7,285
Damage	54	2,473	2,644	2,541

	Police Cost Urban	Rural	Motorway
Fatal	16,951	17,407	17,610
Serious	1,872	2,337	2,468
Slight	484	664	554
Damage	484	20	17

Compound Annual Rates of Growth of Accident Values

Range of Years	Rate of Growth (%p.a.)
2010-2011	1.13
2011-2012	0.51
2012-2013	1.52
2013-2014	2.16
2014-2015	1.66
2015-2016	1.69
2016-2017	1.80
2017-2018	1.73
2018-2019	1.64
2019-2020	1.66
2020-2021	1.77
2021-2022	1.78
2022-2023	1.80
2023-2024	1.91
2024-2025	1.93
2025-2026	1.94
2026-2027	1.96

2027-2028	1.98
2028-2029	1.99
2029-2030	2.01
2030-2031	2.02
2031-2032	2.04
2032-2033	2.05
2033-2034	2.16
2034-2035	2.07
2035-2036	2.08
2036-2040	2.09
2040-2045	2.11
2045-2046	2.24
2046-2050	2.14
2050-2055	2.07
2055-2057	2.09
2057-2059	2.19
2059-2060	2.29
2060-2063	2.30
2063-2065	2.20
2065-2070	2.18
2070-2085	2.17
2085-2110	2.18

Number of Damage Only Accidents per PIA

	Urban	Rural	Motorway
Damage	17.7	7.8	7.6

Link Only Accident Proportions

Base Year

2009

Road Type	Speed Limit (mph)	Accident Proportions Fatal	Serious	Slight
1	50	0.019	0.104	0.877
1	60	0.019	0.104	0.877
1	70	0.019	0.104	0.877
1	80	0.019	0.104	0.877
2	50	0.019	0.104	0.877
2	60	0.019	0.104	0.877
2	70	0.019	0.104	0.877
2	80	0.019	0.104	0.877
3	50	0.019	0.104	0.877
3	60	0.019	0.104	0.877
3	70	0.019	0.104	0.877
3	80	0.019	0.104	0.877
4	30	0.014	0.145	0.841
4	40	0.014	0.145	0.841
4	50	0.046	0.206	0.748
4	60	0.046	0.206	0.748
4	70	0.046	0.206	0.748
4	80	0.046	0.206	0.748
5	30	0.014	0.145	0.841
5	40	0.014	0.145	0.841
5	50	0.046	0.206	0.748
5	60	0.046	0.206	0.748

5	70	0.046	0.206	0.748
5	80	0.046	0.206	0.748
6	30	0.014	0.145	0.841
6	40	0.014	0.145	0.841
6	50	0.046	0.206	0.748
6	60	0.046	0.206	0.748
6	70	0.046	0.206	0.748
6	80	0.046	0.206	0.748
7	30	0.014	0.145	0.841
7	40	0.014	0.145	0.841
7	50	0.046	0.206	0.748
7	60	0.046	0.206	0.748
7	70	0.046	0.206	0.748
7	80	0.046	0.206	0.748
8	30	0.014	0.145	0.841
8	40	0.014	0.145	0.841
8	50	0.046	0.206	0.748
8	60	0.046	0.206	0.748
8	70	0.046	0.206	0.748
8	80	0.046	0.206	0.748
9	30	0.010	0.145	0.846
9	40	0.010	0.145	0.846
9	50	0.026	0.193	0.780
9	60	0.026	0.193	0.780
9	70	0.026	0.193	0.780
9	80	0.026	0.193	0.780
10	30	0.017	0.135	0.849
10	40	0.017	0.135	0.849
10	50	0.028	0.135	0.837
10	60	0.028	0.135	0.837
10	70	0.028	0.135	0.837
10	80	0.028	0.135	0.837
11	30	0.017	0.135	0.849
11	40	0.017	0.135	0.849
11	50	0.028	0.135	0.837
11	60	0.028	0.135	0.837
11	70	0.028	0.135	0.837
11	80	0.028	0.135	0.837
12	30	0.017	0.135	0.849
12	40	0.017	0.135	0.849
12	50	0.028	0.135	0.837
12	60	0.028	0.135	0.837
12	70	0.028	0.135	0.837
12	80	0.028	0.135	0.837
13	30	0.017	0.135	0.849
13	40	0.017	0.135	0.849
13	50	0.028	0.135	0.837
13	60	0.028	0.135	0.837
13	70	0.028	0.135	0.837
13	80	0.028	0.135	0.837
14	30	0.017	0.135	0.849
14	40	0.017	0.135	0.849
14	50	0.028	0.135	0.837
14	60	0.028	0.135	0.837

14	70	0.028	0.135	0.837
14	80	0.028	0.135	0.837
15	30	0.017	0.135	0.849
15	40	0.017	0.135	0.849
15	50	0.028	0.135	0.837
15	60	0.028	0.135	0.837
15	70	0.028	0.135	0.837
15	80	0.028	0.135	0.837

Link and Junction Combined Accident Proportions
Base Year
2009

Road Type	Speed Limit (mph)	Accident Proportions Fatal	Serious	Slight
1	50	0.018	0.101	0.882
1	60	0.018	0.101	0.882
1	70	0.018	0.101	0.882
1	80	0.018	0.101	0.882
2	50	0.018	0.101	0.882
2	60	0.018	0.101	0.882
2	70	0.018	0.101	0.882
2	80	0.018	0.101	0.882
3	50	0.018	0.101	0.882
3	60	0.018	0.101	0.882
3	70	0.018	0.101	0.882
3	80	0.018	0.101	0.882
4	30	0.008	0.122	0.869
4	40	0.008	0.122	0.869
4	50	0.034	0.187	0.779
4	60	0.034	0.187	0.779
4	70	0.034	0.187	0.779
4	80	0.034	0.187	0.779
5	30	0.008	0.122	0.869
5	40	0.008	0.122	0.869
5	50	0.034	0.187	0.779
5	60	0.034	0.187	0.779
5	70	0.034	0.187	0.779
5	80	0.034	0.187	0.779
6	30	0.008	0.122	0.869
6	40	0.008	0.122	0.869
6	50	0.034	0.187	0.779
6	60	0.034	0.187	0.779
6	70	0.034	0.187	0.779
6	80	0.034	0.187	0.779
7	30	0.008	0.122	0.869
7	40	0.008	0.122	0.869
7	50	0.034	0.187	0.779
7	60	0.034	0.187	0.779
7	70	0.034	0.187	0.779
7	80	0.034	0.187	0.779
8	30	0.008	0.122	0.869
8	40	0.008	0.122	0.869
8	50	0.034	0.187	0.779
8	60	0.034	0.187	0.779

8	70	0.034	0.187	0.779
8	80	0.034	0.187	0.779
9	30	0.007	0.126	0.867
9	40	0.007	0.126	0.867
9	50	0.024	0.187	0.789
9	60	0.024	0.187	0.789
9	70	0.024	0.187	0.789
9	80	0.024	0.187	0.789
10	30	0.009	0.104	0.887
10	40	0.009	0.104	0.887
10	50	0.023	0.127	0.850
10	60	0.023	0.127	0.850
10	70	0.023	0.127	0.850
10	80	0.023	0.127	0.850
11	30	0.009	0.104	0.887
11	40	0.009	0.104	0.887
11	50	0.023	0.127	0.850
11	60	0.023	0.127	0.850
11	70	0.023	0.127	0.850
11	80	0.023	0.127	0.850
12	30	0.009	0.104	0.887
12	40	0.009	0.104	0.887
12	50	0.023	0.127	0.850
12	60	0.023	0.127	0.850
12	70	0.023	0.127	0.850
12	80	0.023	0.127	0.850
13	30	0.009	0.104	0.887
13	40	0.009	0.104	0.887
13	50	0.023	0.127	0.850
13	60	0.023	0.127	0.850
13	70	0.023	0.127	0.850
13	80	0.023	0.127	0.850
14	30	0.009	0.104	0.887
14	40	0.009	0.104	0.887
14	50	0.023	0.127	0.850
14	60	0.023	0.127	0.850
14	70	0.023	0.127	0.850
14	80	0.023	0.127	0.850
15	30	0.009	0.104	0.887
15	40	0.009	0.104	0.887
15	50	0.023	0.127	0.850
15	60	0.023	0.127	0.850
15	70	0.023	0.127	0.850
15	80	0.023	0.127	0.850

Junction Only Accident Proportions
Base Year
2000

Road Type	Speed Limit (mph)	Accident Proportions Fatal	Serious	Slight
1	50	0.024	0.188	0.787
1	60	0.024	0.188	0.787
1	70	0.024	0.188	0.787
1	80	0.024	0.188	0.787

2	30	0.007	0.124	0.869
2	40	0.007	0.124	0.869
3	50	0.024	0.188	0.787
3	60	0.024	0.188	0.787
3	70	0.024	0.188	0.787
3	80	0.024	0.188	0.787
4	30	0.007	0.124	0.869
4	40	0.007	0.124	0.869
5	50	0.027	0.206	0.766
5	60	0.027	0.206	0.766
5	70	0.027	0.206	0.766
5	80	0.027	0.206	0.766
6	30	0.006	0.116	0.878
6	40	0.006	0.116	0.878
7	50	0.027	0.206	0.766
7	60	0.027	0.206	0.766
7	70	0.027	0.206	0.766
7	80	0.027	0.206	0.766
8	30	0.006	0.116	0.878
8	40	0.006	0.116	0.878
9	50	0.027	0.206	0.766
9	60	0.027	0.206	0.766
9	70	0.027	0.206	0.766
9	80	0.027	0.206	0.766
10	30	0.006	0.116	0.878
10	40	0.006	0.116	0.878
11	50	0.027	0.206	0.766
11	60	0.027	0.206	0.766
11	70	0.027	0.206	0.766
11	80	0.027	0.206	0.766
12	30	0.006	0.116	0.878
12	40	0.006	0.116	0.878
13	50	0.024	0.188	0.787
13	60	0.024	0.188	0.787
13	70	0.024	0.188	0.787
13	80	0.024	0.188	0.787
14	30	0.007	0.124	0.869
14	40	0.007	0.124	0.869
15	50	0.024	0.188	0.787
15	60	0.024	0.188	0.787
15	70	0.024	0.188	0.787
15	80	0.024	0.188	0.787
16	30	0.007	0.124	0.869
16	40	0.007	0.124	0.869
17	50	0.027	0.206	0.766
17	60	0.027	0.206	0.766
17	70	0.027	0.206	0.766
17	80	0.027	0.206	0.766
18	30	0.006	0.116	0.878
18	40	0.006	0.116	0.878
19	50	0.027	0.206	0.766
19	60	0.027	0.206	0.766
19	70	0.027	0.206	0.766
19	80	0.027	0.206	0.766

20	30	0.006	0.116	0.878
20	40	0.006	0.116	0.878
21	50	0.027	0.206	0.766
21	60	0.027	0.206	0.766
21	70	0.027	0.206	0.766
21	80	0.027	0.206	0.766
22	30	0.006	0.116	0.878
22	40	0.006	0.116	0.878
23	50	0.027	0.206	0.766
23	60	0.027	0.206	0.766
23	70	0.027	0.206	0.766
23	80	0.027	0.206	0.766
24	30	0.006	0.116	0.878
24	40	0.006	0.116	0.878
25	50	0.024	0.188	0.787
25	60	0.024	0.188	0.787
25	70	0.024	0.188	0.787
25	80	0.024	0.188	0.787
26	30	0.007	0.124	0.869
26	40	0.007	0.124	0.869
27	50	0.024	0.188	0.787
27	60	0.024	0.188	0.787
27	70	0.024	0.188	0.787
27	80	0.024	0.188	0.787
28	30	0.007	0.124	0.869
28	40	0.007	0.124	0.869
29	50	0.027	0.206	0.766
29	60	0.027	0.206	0.766
29	70	0.027	0.206	0.766
29	80	0.027	0.206	0.766
30	30	0.006	0.116	0.878
30	40	0.006	0.116	0.878
31	50	0.027	0.206	0.766
31	60	0.027	0.206	0.766
31	70	0.027	0.206	0.766
31	80	0.027	0.206	0.766
32	30	0.006	0.116	0.878
32	40	0.006	0.116	0.878
33	50	0.027	0.206	0.766
33	60	0.027	0.206	0.766
33	70	0.027	0.206	0.766
33	80	0.027	0.206	0.766
34	30	0.006	0.116	0.878
34	40	0.006	0.116	0.878
35	50	0.027	0.206	0.766
35	60	0.027	0.206	0.766
35	70	0.027	0.206	0.766
35	80	0.027	0.206	0.766
36	30	0.006	0.116	0.878
36	40	0.006	0.116	0.878
37	50	0.009	0.117	0.874
37	60	0.009	0.117	0.874
37	70	0.009	0.117	0.874
37	80	0.009	0.117	0.874

38	30	0.006	0.107	0.887
38	40	0.006	0.107	0.887
39	50	0.009	0.117	0.874
39	60	0.009	0.117	0.874
39	70	0.009	0.117	0.874
39	80	0.009	0.117	0.874
40	30	0.006	0.107	0.887
40	40	0.006	0.107	0.887
41	50	0.009	0.115	0.876
41	60	0.009	0.115	0.876
41	70	0.009	0.115	0.876
41	80	0.009	0.115	0.876
42	30	0.006	0.107	0.887
42	40	0.006	0.107	0.887
43	50	0.009	0.115	0.876
43	60	0.009	0.115	0.876
43	70	0.009	0.115	0.876
43	80	0.009	0.115	0.876
44	30	0.006	0.107	0.887
44	40	0.006	0.107	0.887
45	50	0.009	0.115	0.876
45	60	0.009	0.115	0.876
45	70	0.009	0.115	0.876
45	80	0.009	0.115	0.876
46	30	0.006	0.107	0.887
46	40	0.006	0.107	0.887
47	50	0.009	0.115	0.876
47	60	0.009	0.115	0.876
47	70	0.009	0.115	0.876
47	80	0.009	0.115	0.876
48	30	0.006	0.107	0.887
48	40	0.006	0.107	0.887
49	50	0.006	0.091	0.903
49	60	0.006	0.091	0.903
49	70	0.006	0.091	0.903
49	80	0.006	0.091	0.903
50	30	0.003	0.075	0.923
50	40	0.003	0.075	0.923
51	50	0.006	0.091	0.903
51	60	0.006	0.091	0.903
51	70	0.006	0.091	0.903
51	80	0.006	0.091	0.903
52	30	0.003	0.075	0.923
52	40	0.003	0.075	0.923
53	50	0.006	0.091	0.903
53	60	0.006	0.091	0.903
53	70	0.006	0.091	0.903
53	80	0.006	0.091	0.903
54	30	0.003	0.075	0.923
54	40	0.003	0.075	0.923
55	50	0.006	0.091	0.903
55	60	0.006	0.091	0.903
55	70	0.006	0.091	0.903
55	80	0.006	0.091	0.903

56	30	0.003	0.075	0.923
56	40	0.003	0.075	0.923
57	50	0.006	0.091	0.903
57	60	0.006	0.091	0.903
57	70	0.006	0.091	0.903
57	80	0.006	0.091	0.903
58	30	0.003	0.075	0.923
58	40	0.003	0.075	0.923
59	50	0.006	0.091	0.903
59	60	0.006	0.091	0.903
59	70	0.006	0.091	0.903
59	80	0.006	0.091	0.903
60	30	0.003	0.075	0.923
60	40	0.003	0.075	0.923
61	50	0.006	0.091	0.903
61	60	0.006	0.091	0.903
61	70	0.006	0.091	0.903
61	80	0.006	0.091	0.903
62	30	0.003	0.075	0.923
62	40	0.003	0.075	0.923
63	50	0.006	0.091	0.903
63	60	0.006	0.091	0.903
63	70	0.006	0.091	0.903
63	80	0.006	0.091	0.903
64	30	0.003	0.075	0.923
64	40	0.003	0.075	0.923
65	50	0.006	0.091	0.903
65	60	0.006	0.091	0.903
65	70	0.006	0.091	0.903
65	80	0.006	0.091	0.903
66	30	0.003	0.075	0.923
66	40	0.003	0.075	0.923
67	50	0.006	0.091	0.903
67	60	0.006	0.091	0.903
67	70	0.006	0.091	0.903
67	80	0.006	0.091	0.903
68	30	0.003	0.075	0.923
68	40	0.003	0.075	0.923
69	50	0.006	0.091	0.903
69	60	0.006	0.091	0.903
69	70	0.006	0.091	0.903
69	80	0.006	0.091	0.903
70	30	0.003	0.075	0.923
70	40	0.003	0.075	0.923
71	50	0.006	0.091	0.903
71	60	0.006	0.091	0.903
71	70	0.006	0.091	0.903
71	80	0.006	0.091	0.903
72	30	0.003	0.075	0.923
72	40	0.003	0.075	0.923
73	50	0.006	0.091	0.903
73	60	0.006	0.091	0.903
73	70	0.006	0.091	0.903
73	80	0.006	0.091	0.903

74	30	0.003	0.087	0.910
74	40	0.003	0.087	0.910
75	50	0.006	0.091	0.903
75	60	0.006	0.091	0.903
75	70	0.006	0.091	0.903
75	80	0.006	0.091	0.903
76	30	0.003	0.087	0.910
76	40	0.003	0.087	0.910
77	50	0.006	0.091	0.903
77	60	0.006	0.091	0.903
77	70	0.006	0.091	0.903
77	80	0.006	0.091	0.903
78	30	0.003	0.087	0.910
78	40	0.003	0.087	0.910
79	50	0.006	0.091	0.903
79	60	0.006	0.091	0.903
79	70	0.006	0.091	0.903
79	80	0.006	0.091	0.903
80	30	0.003	0.087	0.910
80	40	0.003	0.087	0.910
81	50	0.006	0.091	0.903
81	60	0.006	0.091	0.903
81	70	0.006	0.091	0.903
81	80	0.006	0.091	0.903
82	30	0.003	0.087	0.910
82	40	0.003	0.087	0.910
83	50	0.006	0.091	0.903
83	60	0.006	0.091	0.903
83	70	0.006	0.091	0.903
83	80	0.006	0.091	0.903
84	30	0.003	0.087	0.910
84	40	0.003	0.087	0.910
85	50	0.004	0.062	0.934
85	60	0.004	0.062	0.934
85	70	0.004	0.062	0.934
85	80	0.004	0.062	0.934
86	30	0.003	0.064	0.933
86	40	0.003	0.064	0.933
87	50	0.004	0.062	0.934
87	60	0.004	0.062	0.934
87	70	0.004	0.062	0.934
87	80	0.004	0.062	0.934
88	30	0.003	0.064	0.933
88	40	0.003	0.064	0.933
89	50	0.004	0.062	0.934
89	60	0.004	0.062	0.934
89	70	0.004	0.062	0.934
89	80	0.004	0.062	0.934
90	30	0.003	0.064	0.933
90	40	0.003	0.064	0.933
91	50	0.004	0.062	0.934
91	60	0.004	0.062	0.934
91	70	0.004	0.062	0.934
91	80	0.004	0.062	0.934

92	30	0.003	0.064	0.933
92	40	0.003	0.064	0.933
93	50	0.004	0.062	0.934
93	60	0.004	0.062	0.934
93	70	0.004	0.062	0.934
93	80	0.004	0.062	0.934
94	30	0.003	0.064	0.933
94	40	0.003	0.064	0.933
95	50	0.004	0.062	0.934
95	60	0.004	0.062	0.934
95	70	0.004	0.062	0.934
95	80	0.004	0.062	0.934
96	30	0.003	0.064	0.933
96	40	0.003	0.064	0.933

Link Only Accident Rates and Change Factors
Base Year
2009

Road Type	Speed Limit (mph)	Accident Rate	Beta Factor
1	50	0.063	0.956
1	60	0.063	0.956
1	70	0.063	0.956
2	50	0.063	0.956
2	60	0.063	0.956
2	70	0.063	0.956
3	50	0.075	0.956
3	60	0.075	0.956
3	70	0.075	0.956
4	30	0.175	0.964
4	40	0.175	0.964
4	50	0.143	0.958
4	60	0.143	0.958
4	70	0.143	0.958
4	80	0.143	0.958
5	30	0.175	0.964
5	40	0.175	0.964
5	50	0.143	0.958
5	60	0.143	0.958
5	70	0.143	0.958
5	80	0.143	0.958
6	30	0.206	0.964
6	40	0.206	0.964
6	50	0.082	0.958
6	60	0.082	0.958
6	70	0.082	0.958
6	80	0.082	0.958
7	30	0.206	0.964
7	40	0.206	0.964
7	50	0.082	0.958
7	60	0.082	0.958
7	70	0.082	0.958
7	80	0.082	0.958
8	30	0.206	0.964

8	40	0.206	0.964
8	50	0.143	0.958
8	60	0.143	0.958
8	70	0.143	0.958
8	80	0.143	0.958
9	30	0.195	0.957
9	40	0.195	0.957
9	50	0.163	0.935
9	60	0.163	0.935
9	70	0.163	0.935
9	80	0.163	0.935
10	30	0.148	0.965
10	40	0.148	0.965
10	50	0.077	0.960
10	60	0.077	0.960
10	70	0.077	0.960
10	80	0.077	0.960
11	30	0.154	0.965
11	40	0.154	0.965
11	50	0.059	0.960
11	60	0.059	0.960
11	70	0.059	0.960
11	80	0.059	0.960
12	30	0.154	0.965
12	40	0.154	0.965
12	50	0.077	0.960
12	60	0.077	0.960
12	70	0.077	0.960
12	80	0.077	0.960
13	30	0.184	0.949
13	40	0.184	0.949
13	50	0.101	0.956
13	60	0.101	0.956
13	70	0.101	0.956
13	80	0.101	0.956
14	30	0.184	0.949
14	40	0.184	0.949
14	50	0.101	0.956
14	60	0.101	0.956
14	70	0.101	0.956
14	80	0.101	0.956
15	30	0.184	0.949
15	40	0.184	0.949
15	50	0.101	0.956
15	60	0.101	0.956
15	70	0.101	0.956
15	80	0.101	0.956

Link and Junction Combined Accident Rates and Change Factors
Base Year
2009

Road Type	Speed Limit (mph)	Accident Rate	Beta Factor
1	50	0.080	0.956

1	60	0.080	0.956
1	70	0.080	0.956
2	50	0.067	0.956
2	60	0.067	0.956
2	70	0.067	0.956
3	50	0.079	0.956
3	60	0.079	0.956
3	70	0.079	0.956
4	30	0.532	0.959
4	40	0.532	0.959
4	50	0.244	0.955
4	60	0.244	0.955
4	70	0.244	0.955
4	80	0.244	0.955
5	30	0.532	0.959
5	40	0.532	0.959
5	50	0.244	0.955
5	60	0.244	0.955
5	70	0.244	0.955
5	80	0.244	0.955
6	30	0.863	0.959
6	40	0.863	0.959
6	50	0.163	0.955
6	60	0.163	0.955
6	70	0.163	0.955
6	80	0.163	0.955
7	30	0.863	0.959
7	40	0.863	0.959
7	50	0.163	0.955
7	60	0.163	0.955
7	70	0.163	0.955
7	80	0.163	0.955
8	30	0.863	0.959
8	40	0.863	0.959
8	50	0.244	0.955
8	60	0.244	0.955
8	70	0.244	0.955
8	80	0.244	0.955
9	30	0.559	0.951
9	40	0.559	0.951
9	50	0.233	0.933
9	60	0.233	0.933
9	70	0.233	0.933
9	80	0.233	0.933
10	30	0.553	0.967
10	40	0.553	0.967
10	50	0.107	0.956
10	60	0.107	0.956
10	70	0.107	0.956
10	80	0.107	0.956
11	30	0.599	0.967
11	40	0.599	0.967
11	50	0.072	0.956
11	60	0.072	0.956

11	70	0.072	0.956
11	80	0.072	0.956
12	30	0.599	0.967
12	40	0.599	0.967
12	50	0.107	0.956
12	60	0.107	0.956
12	70	0.107	0.956
12	80	0.107	0.956
13	30	0.620	0.951
13	40	0.620	0.951
13	50	0.123	0.946
13	60	0.123	0.946
13	70	0.123	0.946
13	80	0.123	0.946
14	30	0.620	0.951
14	40	0.620	0.951
14	50	0.123	0.946
14	60	0.123	0.946
14	70	0.123	0.946
14	80	0.123	0.946
15	30	0.620	0.951
15	40	0.620	0.951
15	50	0.123	0.946
15	60	0.123	0.946
15	70	0.123	0.946
15	80	0.123	0.946

Link Only and Link and Junction Combined Accident Beta Factor Changes over Time

Range of Years	Change to Beta Factor
2004-2019	1.000
2020-2029	0.500
2030-2039	0.250
2040-2153	0.000

Link Only Casualty Rates

Base Year

2009

Road Type	Speed Limit (mph)	Casualties per P.I.A. Fatal	Serious	Slight
1	50	0.021	0.129	1.464
1	60	0.021	0.129	1.464
1	70	0.021	0.129	1.464
2	50	0.021	0.129	1.464
2	60	0.021	0.129	1.464
2	70	0.021	0.129	1.464
3	50	0.021	0.129	1.464
3	60	0.021	0.129	1.464
3	70	0.021	0.129	1.464
4	30	0.015	0.162	1.154
4	40	0.015	0.162	1.154
4	50	0.052	0.274	1.251
4	60	0.052	0.274	1.251
4	70	0.052	0.274	1.251

4	80	0.052	0.274	1.251
5	30	0.015	0.162	1.154
5	40	0.015	0.162	1.154
5	50	0.052	0.274	1.251
5	60	0.052	0.274	1.251
5	70	0.052	0.274	1.251
5	80	0.052	0.274	1.251
6	30	0.015	0.162	1.154
6	40	0.015	0.162	1.154
6	50	0.052	0.274	1.251
6	60	0.052	0.274	1.251
6	70	0.052	0.274	1.251
6	80	0.052	0.274	1.251
7	30	0.015	0.162	1.154
7	40	0.015	0.162	1.154
7	50	0.052	0.274	1.251
7	60	0.052	0.274	1.251
7	70	0.052	0.274	1.251
7	80	0.052	0.274	1.251
8	30	0.015	0.162	1.154
8	40	0.015	0.162	1.154
8	50	0.052	0.274	1.251
8	60	0.052	0.274	1.251
8	70	0.052	0.274	1.251
8	80	0.052	0.274	1.251
9	30	0.010	0.156	1.071
9	40	0.010	0.156	1.071
9	50	0.028	0.230	1.178
9	60	0.028	0.230	1.178
9	70	0.028	0.230	1.178
9	80	0.028	0.230	1.178
10	30	0.018	0.148	1.183
10	40	0.018	0.148	1.183
10	50	0.031	0.161	1.328
10	60	0.031	0.161	1.328
10	70	0.031	0.161	1.328
10	80	0.031	0.161	1.328
11	30	0.018	0.148	1.183
11	40	0.018	0.148	1.183
11	50	0.031	0.161	1.328
11	60	0.031	0.161	1.328
11	70	0.031	0.161	1.328
11	80	0.031	0.161	1.328
12	30	0.018	0.148	1.183
12	40	0.018	0.148	1.183
12	50	0.031	0.161	1.328
12	60	0.031	0.161	1.328
12	70	0.031	0.161	1.328
12	80	0.031	0.161	1.328
13	30	0.018	0.148	1.183
13	40	0.018	0.148	1.183
13	50	0.031	0.161	1.328
13	60	0.031	0.161	1.328
13	70	0.031	0.161	1.328

13	80	0.031	0.161	1.328
14	30	0.018	0.148	1.183
14	40	0.018	0.148	1.183
14	50	0.031	0.161	1.328
14	60	0.031	0.161	1.328
14	70	0.031	0.161	1.328
14	80	0.031	0.161	1.328
15	30	0.018	0.148	1.183
15	40	0.018	0.148	1.183
15	50	0.031	0.161	1.328
15	60	0.031	0.161	1.328
15	70	0.031	0.161	1.328
15	80	0.031	0.161	1.328

Link and Junction Combined Casualty Rates
Base Year
2009

Road Type	Speed Limit (mph)	Casualties per P.I.A. Fatal	Serious	Slight
1	50	0.020	0.123	1.455
1	60	0.020	0.123	1.455
1	70	0.020	0.123	1.455
2	50	0.020	0.123	1.455
2	60	0.020	0.123	1.455
2	70	0.020	0.123	1.455
3	50	0.020	0.123	1.455
3	60	0.020	0.123	1.455
3	70	0.020	0.123	1.455
4	30	0.009	0.132	1.176
4	40	0.009	0.132	1.176
4	50	0.038	0.238	1.300
4	60	0.038	0.238	1.300
4	70	0.038	0.238	1.300
4	80	0.038	0.238	1.300
5	30	0.009	0.132	1.176
5	40	0.009	0.132	1.176
5	50	0.038	0.238	1.300
5	60	0.038	0.238	1.300
5	70	0.038	0.238	1.300
5	80	0.038	0.238	1.300
6	30	0.009	0.132	1.176
6	40	0.009	0.132	1.176
6	50	0.038	0.238	1.300
6	60	0.038	0.238	1.300
6	70	0.038	0.238	1.300
6	80	0.038	0.238	1.300
7	30	0.009	0.132	1.176
7	40	0.009	0.132	1.176
7	50	0.038	0.238	1.300
7	60	0.038	0.238	1.300
7	70	0.038	0.238	1.300
7	80	0.038	0.238	1.300
8	30	0.009	0.132	1.176
8	40	0.009	0.132	1.176

8	50	0.038	0.238	1.300
8	60	0.038	0.238	1.300
8	70	0.038	0.238	1.300
8	80	0.038	0.238	1.300
9	30	0.007	0.134	1.132
9	40	0.007	0.134	1.132
9	50	0.026	0.222	1.218
9	60	0.026	0.222	1.218
9	70	0.026	0.222	1.218
9	80	0.026	0.222	1.218
10	30	0.009	0.112	1.238
10	40	0.009	0.112	1.238
10	50	0.025	0.151	1.297
10	60	0.025	0.151	1.297
10	70	0.025	0.151	1.297
10	80	0.025	0.151	1.297
11	30	0.009	0.112	1.238
11	40	0.009	0.112	1.238
11	50	0.025	0.151	1.297
11	60	0.025	0.151	1.297
11	70	0.025	0.151	1.297
11	80	0.025	0.151	1.297
12	30	0.009	0.112	1.238
12	40	0.009	0.112	1.238
12	50	0.025	0.151	1.297
12	60	0.025	0.151	1.297
12	70	0.025	0.151	1.297
12	80	0.025	0.151	1.297
13	30	0.009	0.112	1.238
13	40	0.009	0.112	1.238
13	50	0.025	0.151	1.297
13	60	0.025	0.151	1.297
13	70	0.025	0.151	1.297
13	80	0.025	0.151	1.297
14	30	0.009	0.112	1.238
14	40	0.009	0.112	1.238
14	50	0.025	0.151	1.297
14	60	0.025	0.151	1.297
14	70	0.025	0.151	1.297
14	80	0.025	0.151	1.297
15	30	0.009	0.112	1.238
15	40	0.009	0.112	1.238
15	50	0.025	0.151	1.297
15	60	0.025	0.151	1.297
15	70	0.025	0.151	1.297
15	80	0.025	0.151	1.297

Link Only Casualty Change Factors
Base Year
2009

Road Type	Speed Limit (mph)	Beta Factor Fatal	Serious	Slight
1	50	0.978	0.979	1.002
1	60	0.978	0.979	1.002

1	70	0.978	0.979	1.002
2	50	0.978	0.979	1.002
2	60	0.978	0.979	1.002
2	70	0.978	0.979	1.002
3	50	0.978	0.979	1.002
3	60	0.978	0.979	1.002
3	70	0.978	0.979	1.002
4	30	0.971	0.995	1.001
4	40	0.971	0.995	1.001
4	50	0.979	0.983	1.002
4	60	0.979	0.983	1.002
4	70	0.979	0.983	1.002
4	80	0.979	0.983	1.002
5	30	0.971	0.995	1.001
5	40	0.971	0.995	1.001
5	50	0.979	0.983	1.002
5	60	0.979	0.983	1.002
5	70	0.979	0.983	1.002
5	80	0.979	0.983	1.002
6	30	0.971	0.995	1.001
6	40	0.971	0.995	1.001
6	50	0.979	0.983	1.002
6	60	0.979	0.983	1.002
6	70	0.979	0.983	1.002
6	80	0.979	0.983	1.002
7	30	0.971	0.995	1.001
7	40	0.971	0.995	1.001
7	50	0.979	0.983	1.002
7	60	0.979	0.983	1.002
7	70	0.979	0.983	1.002
7	80	0.979	0.983	1.002
8	30	0.971	0.995	1.001
8	40	0.971	0.995	1.001
8	50	0.979	0.983	1.002
8	60	0.979	0.983	1.002
8	70	0.979	0.983	1.002
8	80	0.979	0.983	1.002
9	30	0.985	0.997	1.001
9	40	0.985	0.997	1.001
9	50	0.987	0.989	0.998
9	60	0.987	0.989	0.998
9	70	0.987	0.989	0.998
9	80	0.987	0.989	0.998
10	30	0.998	0.990	1.002
10	40	0.998	0.990	1.002
10	50	0.984	0.985	0.998
10	60	0.984	0.985	0.998
10	70	0.984	0.985	0.998
10	80	0.984	0.985	0.998
11	30	0.998	0.990	1.002
11	40	0.998	0.990	1.002
11	50	0.984	0.985	0.998
11	60	0.984	0.985	0.998
11	70	0.984	0.985	0.998

11	80	0.984	0.985	0.998
12	30	0.998	0.990	1.002
12	40	0.998	0.990	1.002
12	50	0.984	0.985	0.998
12	60	0.984	0.985	0.998
12	70	0.984	0.985	0.998
12	80	0.984	0.985	0.998
13	30	0.998	0.990	1.002
13	40	0.998	0.990	1.002
13	50	0.984	0.985	0.998
13	60	0.984	0.985	0.998
13	70	0.984	0.985	0.998
13	80	0.984	0.985	0.998
14	30	0.998	0.990	1.002
14	40	0.998	0.990	1.002
14	50	0.984	0.985	0.998
14	60	0.984	0.985	0.998
14	70	0.984	0.985	0.998
14	80	0.984	0.985	0.998
15	30	0.998	0.990	1.002
15	40	0.998	0.990	1.002
15	50	0.984	0.985	0.998
15	60	0.984	0.985	0.998
15	70	0.984	0.985	0.998
15	80	0.984	0.985	0.998

Link and Junction Combined Casualty Change Factors

Base Year

2009

Road Type	Speed Limit (mph)	Beta Factor		
		Fatal	Serious	Slight
1	50	0.978	0.979	1.002
1	60	0.978	0.979	1.002
1	70	0.978	0.979	1.002
2	50	0.978	0.979	1.002
2	60	0.978	0.979	1.002
2	70	0.978	0.979	1.002
3	50	0.978	0.979	1.002
3	60	0.978	0.979	1.002
3	70	0.978	0.979	1.002
4	30	0.971	0.995	1.001
4	40	0.971	0.995	1.001
4	50	0.979	0.983	1.002
4	60	0.979	0.983	1.002
4	70	0.979	0.983	1.002
4	80	0.979	0.983	1.002
5	30	0.971	0.995	1.001
5	40	0.971	0.995	1.001
5	50	0.979	0.983	1.002
5	60	0.979	0.983	1.002
5	70	0.979	0.983	1.002
5	80	0.979	0.983	1.002
6	30	0.971	0.995	1.001
6	40	0.971	0.995	1.001

6	50	0.979	0.983	1.002
6	60	0.979	0.983	1.002
6	70	0.979	0.983	1.002
6	80	0.979	0.983	1.002
7	30	0.971	0.995	1.001
7	40	0.971	0.995	1.001
7	50	0.979	0.983	1.002
7	60	0.979	0.983	1.002
7	70	0.979	0.983	1.002
7	80	0.979	0.983	1.002
8	30	0.971	0.995	1.001
8	40	0.971	0.995	1.001
8	50	0.979	0.983	1.002
8	60	0.979	0.983	1.002
8	70	0.979	0.983	1.002
8	80	0.979	0.983	1.002
9	30	0.985	0.997	1.001
9	40	0.985	0.997	1.001
9	50	0.987	0.989	0.998
9	60	0.987	0.989	0.998
9	70	0.987	0.989	0.998
9	80	0.987	0.989	0.998
10	30	0.998	0.990	1.002
10	40	0.998	0.990	1.002
10	50	0.984	0.985	0.998
10	60	0.984	0.985	0.998
10	70	0.984	0.985	0.998
10	80	0.984	0.985	0.998
11	30	0.998	0.990	1.002
11	40	0.998	0.990	1.002
11	50	0.984	0.985	0.998
11	60	0.984	0.985	0.998
11	70	0.984	0.985	0.998
11	80	0.984	0.985	0.998
12	30	0.998	0.990	1.002
12	40	0.998	0.990	1.002
12	50	0.984	0.985	0.998
12	60	0.984	0.985	0.998
12	70	0.984	0.985	0.998
12	80	0.984	0.985	0.998
13	30	0.998	0.990	1.002
13	40	0.998	0.990	1.002
13	50	0.984	0.985	0.998
13	60	0.984	0.985	0.998
13	70	0.984	0.985	0.998
13	80	0.984	0.985	0.998
14	30	0.998	0.990	1.002
14	40	0.998	0.990	1.002
14	50	0.984	0.985	0.998
14	60	0.984	0.985	0.998
14	70	0.984	0.985	0.998
14	80	0.984	0.985	0.998
15	30	0.998	0.990	1.002
15	40	0.998	0.990	1.002

15	50	0.984	0.985	0.998
15	60	0.984	0.985	0.998
15	70	0.984	0.985	0.998
15	80	0.984	0.985	0.998

Link Only and Link and Junction Combined Casualty Beta Factor Changes over Time

Range of Years	Change to Beta Factor
1995-2019	1.000
2020-2144	0.000

Junction Only Accident Parameters

Base Year

1997

Junction Type	Speed Limit (mph)	Coefficient 'a'	Power 'b'	Arms	Highest Link (S/D)	Formula Type
1	50	0.195	0.460	3	S	C
1	60	0.195	0.460	3	S	C
1	70	0.195	0.460	3	S	C
1	80	0.195	0.460	3	S	C
2	20	0.195	0.460	3	S	C
2	30	0.195	0.460	3	S	C
2	40	0.195	0.460	3	S	C
3	50	0.195	0.460	3	D	C
3	60	0.195	0.460	3	D	C
3	70	0.195	0.460	3	D	C
3	80	0.195	0.460	3	D	C
4	20	0.195	0.460	3	D	C
4	30	0.195	0.460	3	D	C
4	40	0.195	0.460	3	D	C
5	50	0.361	0.440	4	S	I
5	60	0.361	0.440	4	S	I
5	70	0.361	0.440	4	S	I
5	80	0.361	0.440	4	S	I

```
 6               20              0.361           0.440   4       S
I
 6               30              0.361           0.440   4       S
I
 6               40              0.361           0.440   4       S
I
 7               50              0.240           0.710   4       D
C
 7               60              0.240           0.710   4       D
C
 7               70              0.240           0.710   4       D
C
 7               80              0.240           0.710   4       D
C
 8               20              0.240           0.710   4       D
C
 8               30              0.240           0.710   4       D
C
 8               40              0.240           0.710   4       D
C
 9               50              0.361           0.440   5       S
I
 9               60              0.361           0.440   5       S
I
 9               70              0.361           0.440   5       S
I
 9               80              0.361           0.440   5       S
I
 10              20              0.361           0.440   5       S
I
 10              30              0.361           0.440   5       S
I
 10              40              0.361           0.440   5       S
I
 11              50              0.361           0.440   5       D
I
 11              60              0.361           0.440   5       D
I
 11              70              0.361           0.440   5       D
I
 11              80              0.361           0.440   5       D
I
 12              20              0.361           0.440   5       D
I
 12              30              0.361           0.440   5       D
I
 12              40              0.361           0.440   5       D
I
 13              50              0.195           0.460   3       S
C
 13              60              0.195           0.460   3       S
C
 13              70              0.195           0.460   3       S
C
```

```
 13              80              0.195           0.460   3       S
C
 14              20              0.195           0.460   3       S
C
 14              30              0.195           0.460   3       S
C
 14              40              0.195           0.460   3       S
C
 15              50              0.195           0.460   3       D
C
 15              60              0.195           0.460   3       D
C
 15              70              0.195           0.460   3       D
C
 15              80              0.195           0.460   3       D
C
 16              20              0.195           0.460   3       D
C
 16              30              0.195           0.460   3       D
C
 16              40              0.195           0.460   3       D
C
 17              50              0.361           0.440   4       S
I
 17              60              0.361           0.440   4       S
I
 17              70              0.361           0.440   4       S
I
 17              80              0.361           0.440   4       S
I
 18              20              0.361           0.440   4       S
I
 18              30              0.361           0.440   4       S
I
 18              40              0.361           0.440   4       S
I
 19              50              0.240           0.710   4       D
C
 19              60              0.240           0.710   4       D
C
 19              70              0.240           0.710   4       D
C
 19              80              0.240           0.710   4       D
C
 20              20              0.240           0.710   4       D
C
 20              30              0.240           0.710   4       D
C
 20              40              0.240           0.710   4       D
C
 21              50              0.361           0.440   5       S
I
 21              60              0.361           0.440   5       S
I
```

```
 21              70              0.361           0.440   5       S
I
 21              80              0.361           0.440   5       S
I
 22              20              0.361           0.440   5       S
I
 22              30              0.361           0.440   5       S
I
 22              40              0.361           0.440   5       S
I
 23              50              0.361           0.440   5       D
I
 23              60              0.361           0.440   5       D
I
 23              70              0.361           0.440   5       D
I
 23              80              0.361           0.440   5       D
I
 24              20              0.361           0.440   5       D
I
 24              30              0.361           0.440   5       D
I
 24              40              0.361           0.440   5       D
I
 25              50              0.195           0.460   3       S
C
 25              60              0.195           0.460   3       S
C
 25              70              0.195           0.460   3       S
C
 25              80              0.195           0.460   3       S
C
 26              20              0.195           0.460   3       S
C
 26              30              0.195           0.460   3       S
C
 26              40              0.195           0.460   3       S
C
 27              50              0.195           0.460   3       D
C
 27              60              0.195           0.460   3       D
C
 27              70              0.195           0.460   3       D
C
 27              80              0.195           0.460   3       D
C
 28              20              0.195           0.460   3       D
C
 28              30              0.195           0.460   3       D
C
 28              40              0.195           0.460   3       D
C
 29              50              0.361           0.440   4       S
I
```

29	60	0.361	0.440	4	SI
29	70	0.361	0.440	4	SI
29	80	0.361	0.440	4	SI
30	20	0.361	0.440	4	SI
30	30	0.361	0.440	4	SI
30	40	0.361	0.440	4	SI
31	50	0.240	0.710	4	DC
31	60	0.240	0.710	4	DC
31	70	0.240	0.710	4	DC
31	80	0.240	0.710	4	DC
32	20	0.240	0.710	4	DC
32	30	0.240	0.710	4	DC
32	40	0.240	0.710	4	DC
33	50	0.361	0.440	5	SI
33	60	0.361	0.440	5	SI
33	70	0.361	0.440	5	SI
33	80	0.361	0.440	5	SI
34	20	0.361	0.440	5	SI
34	30	0.361	0.440	5	SI
34	40	0.361	0.440	5	SI
35	50	0.361	0.440	5	DI
35	60	0.361	0.440	5	DI
35	70	0.361	0.440	5	DI
35	80	0.361	0.440	5	DI
36	20	0.361	0.440	5	DI
36	30	0.361	0.440	5	DI
36	40	0.361	0.440	5	DI

```
 37              50              0.223           0.610   3       S
I
 37              60              0.223           0.610   3       S
I
 37              70              0.223           0.610   3       S
I
 37              80              0.223           0.610   3       S
I
 38              20              0.223           0.610   3       S
I
 38              30              0.223           0.610   3       S
I
 38              40              0.223           0.610   3       S
I
 39              50              0.494           0.420   3       D
C
 39              60              0.494           0.420   3       D
C
 39              70              0.494           0.420   3       D
C
 39              80              0.494           0.420   3       D
C
 40              20              0.291           0.510   3       D
C
 40              30              0.291           0.510   3       D
C
 40              40              0.291           0.510   3       D
C
 41              50              1.378           0.200   4       S
C
 41              60              1.378           0.200   4       S
C
 41              70              1.378           0.200   4       S
C
 41              80              1.378           0.200   4       S
C
 42              20              1.378           0.200   4       S
C
 42              30              1.378           0.200   4       S
C
 42              40              1.378           0.200   4       S
C
 43              50              0.494           0.420   4       D
C
 43              60              0.494           0.420   4       D
C
 43              70              0.494           0.420   4       D
C
 43              80              0.494           0.420   4       D
C
 44              20              0.291           0.510   4       D
C
 44              30              0.291           0.510   4       D
C
```

```
 44              40              0.291           0.510   4       D
C
 45              50              0.254           0.620   5       S
I
 45              60              0.254           0.620   5       S
I
 45              70              0.254           0.620   5       S
I
 45              80              0.254           0.620   5       S
I
 46              20              0.254           0.620   5       S
I
 46              30              0.254           0.620   5       S
I
 46              40              0.254           0.620   5       S
I
 47              50              0.238           0.850   5       D
I
 47              60              0.238           0.850   5       D
I
 47              70              0.238           0.850   5       D
I
 47              80              0.238           0.850   5       D
I
 48              20              0.160           0.970   5       D
I
 48              30              0.160           0.970   5       D
I
 48              40              0.160           0.970   5       D
I
 49              50              0.033           0.760   3       S
C
 49              60              0.033           0.760   3       S
C
 49              70              0.033           0.760   3       S
C
 49              80              0.033           0.760   3       S
C
 50              20              0.033           0.760   3       S
C
 50              30              0.033           0.760   3       S
C
 50              40              0.033           0.760   3       S
C
 51              50              0.033           0.760   3       D
C
 51              60              0.033           0.760   3       D
C
 51              70              0.033           0.760   3       D
C
 51              80              0.033           0.760   3       D
C
 52              20              0.033           0.760   3       D
C
```

```
 52              30              0.033           0.760   3       D
C
 52              40              0.033           0.760   3       D
C
 53              50              0.024           0.890   4       S
C
 53              60              0.024           0.890   4       S
C
 53              70              0.024           0.890   4       S
C
 53              80              0.024           0.890   4       S
C
 54              20              0.048           0.740   4       S
C
 54              30              0.048           0.740   4       S
C
 54              40              0.048           0.740   4       S
C
 55              50              0.063           0.690   4       D
C
 55              60              0.063           0.690   4       D
C
 55              70              0.063           0.690   4       D
C
 55              80              0.063           0.690   4       D
C
 56              20              0.022           0.850   4       D
C
 56              30              0.022           0.850   4       D
C
 56              40              0.022           0.850   4       D
C
 57              50              0.007           1.770   5       S
I
 57              60              0.007           1.770   5       S
I
 57              70              0.007           1.770   5       S
I
 57              80              0.007           1.770   5       S
I
 58              20              0.014           1.530   5       S
I
 58              30              0.014           1.530   5       S
I
 58              40              0.014           1.530   5       S
I
 59              50              0.019           1.420   5       D
I
 59              60              0.019           1.420   5       D
I
 59              70              0.019           1.420   5       D
I
 59              80              0.019           1.420   5       D
I
```

```
 60              20              0.006           1.730   5       D
I
 60              30              0.006           1.730   5       D
I
 60              40              0.006           1.730   5       D
I
 61              50              0.033           0.760   3       S
C
 61              60              0.033           0.760   3       S
C
 61              70              0.033           0.760   3       S
C
 61              80              0.033           0.760   3       S
C
 62              20              0.033           0.760   3       S
C
 62              30              0.033           0.760   3       S
C
 62              40              0.033           0.760   3       S
C
 63              50              0.033           0.760   3       D
C
 63              60              0.033           0.760   3       D
C
 63              70              0.033           0.760   3       D
C
 63              80              0.033           0.760   3       D
C
 64              20              0.033           0.760   3       D
C
 64              30              0.033           0.760   3       D
C
 64              40              0.033           0.760   3       D
C
 65              50              0.101           0.660   4       S
C
 65              60              0.101           0.660   4       S
C
 65              70              0.101           0.660   4       S
C
 65              80              0.101           0.660   4       S
C
 66              20              0.263           0.540   4       S
C
 66              30              0.263           0.540   4       S
C
 66              40              0.263           0.540   4       S
C
 67              50              0.101           0.660   4       D
C
 67              60              0.101           0.660   4       D
C
 67              70              0.101           0.660   4       D
C
```

```
 67              80              0.101           0.660   4       D
C
 68              20              0.263           0.540   4       D
C
 68              30              0.263           0.540   4       D
C
 68              40              0.263           0.540   4       D
C
 69              50              0.044           1.280   5       S
I
 69              60              0.044           1.280   5       S
I
 69              70              0.044           1.280   5       S
I
 69              80              0.044           1.280   5       S
I
 70              20              0.095           1.140   5       S
I
 70              30              0.095           1.140   5       S
I
 70              40              0.095           1.140   5       S
I
 71              50              0.044           1.280   5       D
I
 71              60              0.044           1.280   5       D
I
 71              70              0.044           1.280   5       D
I
 71              80              0.044           1.280   5       D
I
 72              20              0.095           1.140   5       D
I
 72              30              0.095           1.140   5       D
I
 72              40              0.095           1.140   5       D
I
 73              50              0.012           1.040   3       S
C
 73              60              0.012           1.040   3       S
C
 73              70              0.012           1.040   3       S
C
 73              80              0.012           1.040   3       S
C
 74              20              0.012           1.040   3       S
C
 74              30              0.012           1.040   3       S
C
 74              40              0.012           1.040   3       S
C
 75              50              0.012           1.040   3       D
C
 75              60              0.012           1.040   3       D
C
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 75              70              0.012           1.040   3       D
C
 75              80              0.012           1.040   3       D
C
 76              20              0.012           1.040   3       D
C
 76              30              0.012           1.040   3       D
C
 76              40              0.012           1.040   3       D
C
 77              50              0.070           0.640   4       S
C
 77              60              0.070           0.640   4       S
C
 77              70              0.070           0.640   4       S
C
 77              80              0.070           0.640   4       S
C
 78              20              0.070           0.640   4       S
C
 78              30              0.070           0.640   4       S
C
 78              40              0.070           0.640   4       S
C
 79              50              0.070           0.640   4       D
C
 79              60              0.070           0.640   4       D
C
 79              70              0.070           0.640   4       D
C
 79              80              0.070           0.640   4       D
C
 80              20              0.070           0.640   4       D
C
 80              30              0.070           0.640   4       D
C
 80              40              0.070           0.640   4       D
C
 81              50              0.013           1.470   5       S
I
 81              60              0.013           1.470   5       S
I
 81              70              0.013           1.470   5       S
I
 81              80              0.013           1.470   5       S
I
 82              20              0.013           1.470   5       S
I
 82              30              0.013           1.470   5       S
I
 82              40              0.013           1.470   5       S
I
 83              50              0.013           1.470   5       D
I
```

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 83              60              0.013           1.470   5       D
I
 83              70              0.013           1.470   5       D
I
 83              80              0.013           1.470   5       D
I
 84              20              0.013           1.470   5       D
I
 84              30              0.013           1.470   5       D
I
 84              40              0.013           1.470   5       D
I
 85              50              0.033           0.760   3       S
C
 85              60              0.033           0.760   3       S
C
 85              70              0.033           0.760   3       S
C
 85              80              0.033           0.760   3       S
C
 86              20              0.033           0.760   3       S
C
 86              30              0.033           0.760   3       S
C
 86              40              0.033           0.760   3       S
C
 87              50              0.033           0.760   3       D
C
 87              60              0.033           0.760   3       D
C
 87              70              0.033           0.760   3       D
C
 87              80              0.033           0.760   3       D
C
 88              20              0.033           0.760   3       D
C
 88              30              0.033           0.760   3       D
C
 88              40              0.033           0.760   3       D
C
 89              50              0.024           0.890   4       S
C
 89              60              0.024           0.890   4       S
C
 89              70              0.024           0.890   4       S
C
 89              80              0.024           0.890   4       S
C
 90              20              0.048           0.740   4       S
C
 90              30              0.048           0.740   4       S
C
 90              40              0.048           0.740   4       S
C
```

91	50	0.063	0.690	4	D
C					
91	60	0.063	0.690	4	D
C					
91	70	0.063	0.690	4	D
C					
91	80	0.063	0.690	4	D
C					
92	20	0.022	0.850	4	D
C					
92	30	0.022	0.850	4	D
C					
92	40	0.022	0.850	4	D
C					
93	50	0.007	1.770	5	S
I					
93	60	0.007	1.770	5	S
I					
93	70	0.007	1.770	5	S
I					
93	80	0.007	1.770	5	S
I					
94	20	0.014	1.530	5	S
I					
94	30	0.014	1.530	5	S
I					
94	40	0.014	1.530	5	S
I					
95	50	0.019	1.420	5	D
I					
95	60	0.019	1.420	5	D
I					
95	70	0.019	1.420	5	D
I					
95	80	0.019	1.420	5	D
I					
96	20	0.006	1.730	5	D
I					
96	30	0.006	1.730	5	D
I					
96	40	0.006	1.730	5	D
I					

Junction Only Accident Change Factors
Base Year
2000

Classification	Speed Limit (mph)	Beta Factor
Major	20	0.991
Major	30	0.991
Major	40	0.991
Major	50	0.984
Major	60	0.984
Major	70	0.984

Major	80	0.984
Minor	20	0.976
Minor	30	0.976
Minor	40	0.976
Minor	50	0.996
Minor	60	0.996
Minor	70	0.996
Minor	80	0.996

Junction Only Accident Beta Factor Changes over Time

Range of Years	Change to Beta Factor
1995-2010	1.000
2011-2020	0.500
2021-2030	0.250
2031-2144	0.000

Junction Only Casualty Rates

Base Year
2000

Road Type	Casualties per P.I.A.		
	Fatal	Serious	Slight
1	0.0265	0.2413	1.355
2	0.0075	0.1350	1.144
3	0.0265	0.2413	1.355
4	0.0075	0.1350	1.144
5	0.0295	0.2793	1.459
6	0.0062	0.1292	1.244
7	0.0295	0.2793	1.459
8	0.0062	0.1292	1.244
9	0.0295	0.2793	1.459
10	0.0062	0.1292	1.244
11	0.0295	0.2793	1.459
12	0.0062	0.1292	1.244
13	0.0265	0.2413	1.355
14	0.0075	0.1350	1.144
15	0.0265	0.2413	1.355
16	0.0075	0.1350	1.144
17	0.0295	0.2793	1.459
18	0.0062	0.1292	1.244
19	0.0295	0.2793	1.459
20	0.0062	0.1292	1.244
21	0.0295	0.2793	1.459
22	0.0062	0.1292	1.244
23	0.0295	0.2793	1.459
24	0.0062	0.1292	1.244
25	0.0265	0.2413	1.355
26	0.0075	0.1350	1.144
27	0.0265	0.2413	1.355
28	0.0075	0.1350	1.144
29	0.0295	0.2793	1.459
30	0.0062	0.1292	1.244
31	0.0295	0.2793	1.459
32	0.0062	0.1292	1.244
33	0.0295	0.2793	1.459

34	0.0062	0.1292	1.244
35	0.0295	0.2793	1.459
36	0.0062	0.1292	1.244
37	0.0092	0.1631	1.444
38	0.0064	0.1157	1.214
39	0.0092	0.1631	1.444
40	0.0064	0.1157	1.214
41	0.0095	0.1423	1.467
42	0.0061	0.1177	1.253
43	0.0095	0.1423	1.467
44	0.0061	0.1177	1.253
45	0.0095	0.1423	1.467
46	0.0061	0.1177	1.253
47	0.0095	0.1423	1.467
48	0.0061	0.1177	1.253
49	0.0060	0.1019	1.214
50	0.0027	0.0806	1.163
51	0.0060	0.1019	1.214
52	0.0027	0.0806	1.163
53	0.0060	0.1019	1.214
54	0.0027	0.0806	1.163
55	0.0060	0.1019	1.214
56	0.0027	0.0806	1.163
57	0.0060	0.1019	1.214
58	0.0027	0.0806	1.163
59	0.0060	0.1019	1.214
60	0.0027	0.0806	1.163
61	0.0060	0.1019	1.214
62	0.0027	0.0806	1.163
63	0.0060	0.1019	1.214
64	0.0027	0.0806	1.163
65	0.0060	0.1019	1.214
66	0.0027	0.0806	1.163
67	0.0060	0.1019	1.214
68	0.0027	0.0806	1.163
69	0.0060	0.1019	1.214
70	0.0027	0.0806	1.163
71	0.0060	0.1019	1.214
72	0.0027	0.0806	1.163
73	0.0060	0.1019	1.214
74	0.0028	0.0965	1.182
75	0.0060	0.1019	1.214
76	0.0028	0.0965	1.182
77	0.0060	0.1019	1.214
78	0.0028	0.0965	1.182
79	0.0060	0.1019	1.214
80	0.0028	0.0965	1.182
81	0.0060	0.1019	1.214
82	0.0028	0.0965	1.182
83	0.0060	0.1019	1.214
84	0.0028	0.0965	1.182
85	0.0039	0.0703	1.258
86	0.0031	0.0705	1.221
87	0.0039	0.0703	1.258

88	0.0031	0.0705	1.221
89	0.0039	0.0703	1.258
90	0.0031	0.0705	1.221
91	0.0039	0.0703	1.258
92	0.0031	0.0705	1.221
93	0.0039	0.0703	1.258
94	0.0031	0.0705	1.221
95	0.0039	0.0703	1.258
96	0.0031	0.0705	1.221

Junction Only Casualty Change Factors

Base Year

2000

Classification	Speed Limit (mph)	Beta Factor Fatal	Serious	Slight
Major	20	0.949	0.962	1.010
Major	30	0.949	0.962	1.010
Major	40	0.949	0.962	1.010
Major	50	0.961	0.959	1.011
Major	60	0.961	0.959	1.011
Major	70	0.961	0.959	1.011
Major	80	0.961	0.959	1.011
Minor	20	0.968	0.958	1.006
Minor	30	0.968	0.958	1.006
Minor	40	0.968	0.958	1.006
Minor	50	0.976	0.972	1.011
Minor	60	0.976	0.972	1.011
Minor	70	0.976	0.972	1.011
Minor	80	0.976	0.972	1.011

Junction Only Casualty Beta Factor Changes over Time

Range of Years	Change to Beta Factor
1995-2010	1.000
2011-2144	0.000

Working on behalf of