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<b>Report To:</b>	<b>Environment &amp; Regeneration Committee</b>	<b>Date:</b>	<b>28 November 2017</b>
<b>Report By:</b>	<b>Corporate Director Environment, Regeneration &amp; Resources</b>	<b>Report No:</b>	<b>LP/099/17</b>
<b>Contact Officer:</b>	<b>Peter MacDonald</b>	<b>Contact No:</b>	<b>01475 712618</b>
<b>Subject:</b>	<b>The Inverclyde Council, Bearhope Street, Greenock (One Way and Prohibition of Right Turn) Order 2016 The Local Authorities' Traffic Orders (Procedure) (Scotland) Regulations 1999</b>		

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## 1.0 PURPOSE

1.1 Further to the statutory consultation process undertaken in terms of the Road Traffic Regulation Act 1984 and the Local Authorities' Traffic Orders (Procedure) (Scotland) Regulations 1999 on The Inverclyde Council, Bearhope Street, Greenock (One Way and Prohibition of Right Turn) Order 2016 (the Proposed TRO), the purpose of this report is to:-

- Request that the Committee adopt the Rules of Procedure for the purposes of the special meeting;
- Advise the Committee in relation to the Proposed TRO of the discussion between Council Officers and the person who has, as part of the public consultation, objected to the Proposed TRO (the Objector); and
- Facilitate the effective fair and proper hearing by the Committee of the Objector who has not withdrawn his objection in order that the Committee can consider his objection (the Objection) and come to a formal recommendation on the Proposed TRO.

## 2.0 SUMMARY

2.1 Local authorities are empowered to make orders under the Road Traffic Regulation Act 1984 as amended and under the Council's Scheme of Administration the Head of Environmental & Commercial Services is responsible for the making, implementation and review of Traffic Management Orders and Traffic Regulation Orders.

2.2 Officers have undertaken a public consultation process in relation to the Proposed TRO as the result of which one Objection was received and maintained.

2.3 It is necessary that the Objector be given an opportunity to be heard before the Committee before it reaches a decision and whether or not to recommend the Proposed TRO for formal approval of The Inverclyde Council. The special meeting has been convened to provide such an opportunity.

2.4 Because of the requirements of the statutory process and the formal nature of the special meeting, it is vital that the Objector has a fair and impartial hearing and the Rules of Procedure provide for this.

## 3.0 RECOMMENDATIONS

It is recommended that the Committee:

3.1 Approve the Rules of Procedure as detailed in Appendix 1.

3.2 Consider the terms of Appendix 2 in relation to the Objection.

- 3.3 Allow the Objector an opportunity to be heard at the special meeting in accordance with the Rules of Procedure.
- 3.4 Consider the Objection and such oral representations on it made by the Objector and officers at the special meeting and thereafter **either**:
- 3.4.1 Dismiss the Objection, approve the Proposed TRO as detailed in Appendix 3 and refer it to the next meeting of The Inverclyde Council recommending that The Inverclyde Council formally approve the Proposed TRO and remit it to the Head of Environmental & Commercial Services and the Head of Legal & Property Services to arrange for its implementation in accordance with the statutory procedure;
- or**
- 3.4.2 Uphold in whole or in part the Objection and remit it to the Head of Environmental & Commercial Services and the Head of Legal & Property Services to amend the terms of the Proposed TRO to deal with the part or parts of the Objection so upheld in accordance with the decision of the Committee and to report to a future meeting of the Committee with the Proposed TRO as further amended for approval.

all in accordance with the Rules of Procedure.

**Gerard Malone**  
**Head of Legal & Property Services**

## **4.0 BACKGROUND**

- 4.1 Local authorities are empowered to make Orders under the Road Traffic Regulation Act 1984 and the Roads (Scotland) Act 1984. Under the Council's Scheme of Administration the Head of Environmental & Commercial Services is responsible for the making, implementation and review of Traffic Management Orders and Traffic Regulation Orders.
- 4.2 Officers proceeded with a public consultation process in accordance with the legislation. At its meeting of 5 October 2017 this Committee was updated as to the consultation process and it authorised officers to make arrangements for the holding of a public hearing in the form of this special meeting.
- 4.3 Officers have continued to engage with the Objector since that date to advise him of the arrangements for and proposed procedure at this special meeting. Officers have provided the Objector with a statement of case which sets out the position of the Head of Environmental & Commercial Services as regards the Proposed TRO; the statement of case is in Appendix 4.
- 4.4 Appendix 2 provides the full text of both the Objection and the correspondence with officers.
- 4.5 Before making a proposed TRO, the Council is, in terms of the Act and the Regulations, required to take into consideration any objections timeously received by them and to give any Objector an opportunity to be heard by them. This special meeting is therefore necessary to permit the Objector to be heard by the Committee in terms of the recommendations above.
- 4.6 As the hearing of objection is a statutory entitlement for Objectors, the Committee will be discharging legal responsibilities at the special meeting effectively as if it were a formal tribunal or board with the obligations which are already familiar to Elected Members as regards hearing and continuity of attendance.

## **5.0 PROPOSALS**

- 5.1 The form of the Proposed TRO which officers are recommending for approval is included at Appendix 3 of this report.
- 5.2 The special meeting will proceed effectively as if a formal tribunal or board. In the interests of fairness, openness and transparency it is therefore necessary that the basis on which the hearing element of the meeting will proceed be formalised. Officers have therefore prepared draft Rules of Procedure of this meeting per Appendix 1. These have been circulated to the Objector prior to this meeting and are recommended for approval by the Committee.
- 5.3 Because of the formality of the hearing process and the statutory process for making Management Rules, only certain decisions of the Committee in this matter are competent. Further it is vital that the Objector has a fair and impartial hearing and the Rules of Procedure provide for this. The decisions which the Committee can competently make are: to dismiss the Objection; to uphold the Objection; or to uphold part of the Objection and dismiss other parts of the Objection. If the Objection is upheld in part, it will be necessary for officers to report back to the Committee at a future date with detailed wording. These eventualities are addressed in the possible Committee outcomes specified in paragraph 3.4.
- 5.4 The Committee is asked to note that, if approved, the Proposed TRO may not be implemented until the making of the Order has been advertised to allow any persons who so wish a period of six weeks to question the validity of the Order in terms of the Road Traffic Regulation Act 1984.

## 6.0 IMPLICATIONS

### Finance

#### 6.1 Financial Implications:

##### One off Costs

Cost Centre	Budget Heading	Budget Years	Proposed Spend this Report	Virement From	Other Comments
N/A					

##### Annually Recurring Costs/ (Savings)

Cost Centre	Budget Heading	With Effect from	Annual Net Impact	Virement From (if Applicable)	Other Comments
N/A					

### Legal

- 6.2 As a local authority, The Inverclyde Council has power in terms of the Road Traffic Regulation Act 1984 and the Local Authorities Traffic Orders Procedure (Scotland) Regulations 1999 to make Traffic Regulation Orders. In accordance with the statutory procedure, the Proposed TRO has been publicised and two objections were received, one of which has been maintained. Before making the TRO, the Council must take into consideration any objections timeously received and give the Objector who maintains his Objection an opportunity to be heard by them.

### Human Resources

- 6.3 There are no Human Resources implications associated with the making of the Proposed TRO.

### Equalities

- 6.4 There are no Equalities implications associated with the making of the Proposed TRO.

### Repopulation

- 6.5 There are no Repopulation implications associated with the making of the Proposed TRO.

## 7.0 CONSULTATIONS

- 7.1 The Head of Environmental & Commercial Services has been consulted in the terms of this report.

## 8.0 LIST OF BACKGROUND PAPERS

- 8.1 None.



# APPENDIX 1

## **Appendix 1 – Rules of Procedure**

### **INVERCLYDE COUNCIL**

#### **ENVIRONMENT AND REGENERATION COMMITTEE**

#### **PROCEDURE AT PUBLIC HEARING INTO OBJECTIONS IN RELATION TO TRAFFIC REGULATION ORDER**

At the hearing, the order of the proceedings will be as follows:

- a) The Chair will conduct the hearing. Immediately after opening it, he will introduce the members of the Committee and the officer(s) present and identify and list those persons who wish to be heard during the hearing. It is therefore vital that any person who wishes to participate attends the opening.
- b) The Chair will outline the procedure, explaining that the hearing will take the form of a discussion which he will lead based on the agenda issued to those objectors who have indicated to the Council that they wish to attend and be heard at the hearing.
- c) The arrangements for the hearing have been designed to create the right atmosphere for discussion, to eliminate or reduce formalities and to give everybody a fair hearing.
- d) As each objection listed on the agenda is reached, the Chair will identify those persons who wish to engage in the discussion of the particular issue(s) raised by the objection. Several objectors with shared concerns may choose a spokesperson and this will be helpful to the process; in the event that a number of objectors decide to act together in this way, the Chair will allow a reasonable extension of the time limits set out below.
- e) The Council officer(s) will be invited to describe and present the case for the traffic regulation order in respect of which the objection has been made, to set the scene for the discussion, with a time limit of 5 minutes per objection.
- f) Each objector will be invited to speak to his objection and comment on the description/presentation by the Council officer(s), with a time limit of 5 minutes. Repetition of similar points is to be avoided and will be managed by the Chair.
- g) The Council officer(s) will be invited to reply to the speech of the objector (introducing no new material), restricted to a time limit of 5 minutes. The Chair will allow the objector the final word (introducing no new material), if he/she wishes it, restricted to a time limit of 5 minutes. The Chair will discourage repetitive or superfluous comments. He will indicate when he considers that sufficient clarification of a topic has been achieved, and the discussion will then move on to the next item on the agenda. At no time will cross examination be permitted.

h) The members of the Committee will then be invited by the Chair to ask questions of both the Council officer(s) and the objector. The role of the members of the Committee is only to hear, consider and make a decision on the evidence given by Council officer(s) and objectors.

i) The members of the Committee will then adjourn to consider their decision. The decision of the Committee will be intimated to the Council officer(s) and the objectors orally. Any votes will be held in public. It is anticipated that the decision of the members of the Committee will be intimated on the day of the public hearing but, if that is not possible for any reason, the public hearing will be re-convened. If the decision of the members of the Committee is to uphold an objection in whole or in part, the matter may be remitted to Council officer(s) to modify the traffic regulation order to deal with the objection in accordance with the decision of the members and report to a future meeting of the Environment and Regeneration Committee.

# APPENDIX 2

Mr Kenneth Beaton  
16 Roxburgh Avenue  
Greenock  
PA15 4LP

Gerard Malone  
Head of Legal and Property Services  
Municipal Buildings  
Greenock  
PA15 1LX

Dear Sir,

I write in connection with the Traffic Regulation Order  
- Bearhope Street, Greenock (One Way and Prohibition of Right Turn) Order 2016 .

I feel I must object to the above order noting the following points.

You state the reason for the order is to "avoid danger to persons and other traffic using the road".

May I respectfully suggest that the presence of danger on this road is caused by parked cars/vans on both sides of the length of Bearhope Street in question (making it , in effect, a single track road) and also parked cars/vans on Roxburgh Street at both corners of Bearhope Street (making it extremely difficult to emerge onto Roxburgh Street , especially when turning right).

The danger could be avoided by simply making the length of Bearhope Street in question "no parking" , at least on one side. And , also making an appropriate length of road "no parking" on Roxburgh Street at both corners of Bearhope Street. (A)

While the avoidance of danger is being mentioned , this would also be an appropriate action on Roxburgh Street at the East most corner of Sir Michael Street.  
When in a Southward direction and turning Westward , the curvature of the road makes it necessary to edge out so far that you are actually across the Eastward carriageway.

This danger could also be alleviated by increasing the "no parking" distance from the corner.  
( note , the priority of this road has been changed before but was changed back as it was not effective) (B)

The above mentioned remedial action at Sir Michael Street would be even more of a necessity noting the following second reason I am objecting to this Order :-

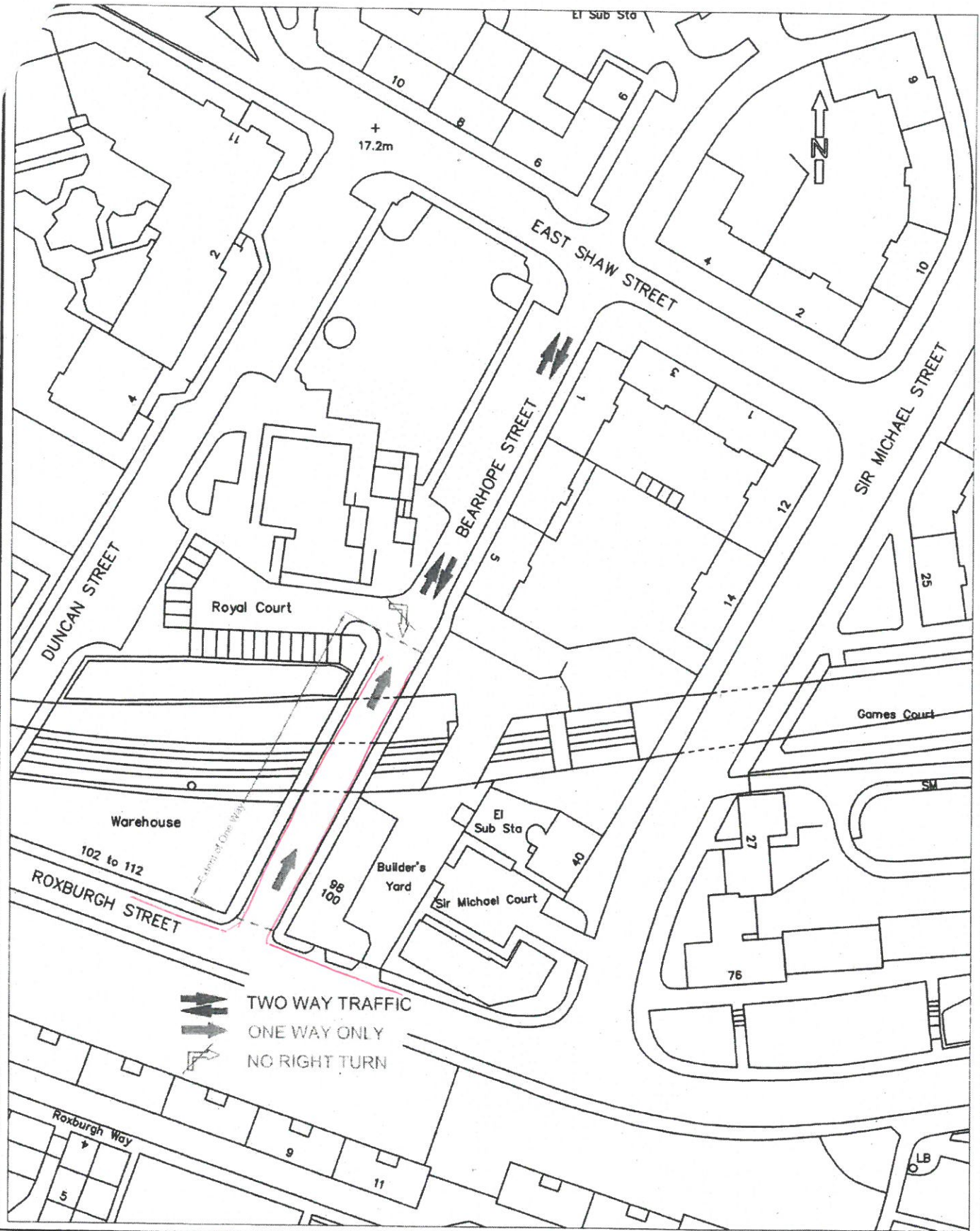
Between the corners of Brachelston Street and Inverkip Road as a West most point AND the corner of Terrace Road and Regent Street as an East most point , the options for travelling in a Northward direction across Roxburgh Street would remain at 5 , while the options for travelling in a Southward direction would reduce from 2 to 1. (C)  
All traffic heading in a Southward direction would therefore be forced up Sir Michael Street , which as already stated would require major remedial action.

I would be very interested to hear your reply and I would be happy to discuss any of the points raised and have attached my mobile phone number.

Yours faithfully,  
Kenneth Beaton







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<b>Consultancy Section</b> Original Drawing Size 297x210 (A4)	ENVIRONMENTAL SERVICE Robert M Graham	<b>TRAFFIC REGULATION ORDER C179</b> BEARHOPE ST, GREENOCK ONE WAY ONLY	Scale : NTS	Date : SEPT 2016
	71 EAST HAMILTON STREET GREENOCK, PA15 2UA		Prepared by : R.Mackay	Checked by :
			Drawn by : R.Mackay	Approved by :
			Drawing No. :	File No. : 19/38

A











Our Ref: JD/JK ECO1442

Your Ref:

Date: 2 December 2016

**Environment, Regeneration & Resources**  
Corporate Director: Aubrey Fawcett

Municipal Buildings  
Clyde Square  
Greenock  
PA15 1LY  
Tel: 01475 712764  
aubrey.fawcett@inverclyde.gov.uk

FIRST CLASS  
Mr. Kenneth Beaton,  
16 Roxburgh Avenue,  
GREENOCK  
PA15 4LP

**COPY**

Dear Mr Beaton,

**Proposed Traffic Regulation Order**  
**The Inverclyde Council, Bearhope Street, Greenock (One Way and Prohibition of Right Turn)**  
**Order 2016**

I acknowledge safe receipt of your undated letter received by me on 1<sup>st</sup> December 2016, objecting to the above proposed Traffic Regulation Order.

I have passed a copy of your letter to the Head of Environmental & Commercial Services and confirm that I will contact you further in this connection once I receive his comments.

Yours sincerely,

**Gerard Malone**  
**Head of Legal and Property Services**

Our Ref: JD/JK ECO1442

Your Ref:

Date: 19 December 2016

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Clyde Square  
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**FIRST CLASS SIGNED FOR**

Mr. Kenneth Beaton,  
16 Roxburgh Avenue,  
GREENOCK  
PA15 4LP



Dear Mr. Beaton,

**Proposed Traffic Regulation Order  
The Inverclyde Council, Bearhope Street, Greenock (One Way and Prohibition of Right Turn) Order 2016**

I refer to my letter of 2<sup>nd</sup> December 2016 in connection with the above proposed One Way Order. The Head of Environmental and Commercial Services has now considered the terms of your letter and, taking the points you raise in the order contained within your letter, comments as follows:-

Thank you for your letter detailing your reasons for objecting to the Council's proposals to make Bearhope Street one-way northbound from Roxburgh Street to Royal Court. Your comments have been considered and I would respond as follows:-

Point A: I can confirm that there are proposals to address the parking restrictions on Bearhope Street and Roxburgh Street; however, they will form part of a separate future proposed Traffic Regulation Order (TRO) as they will have a different legal effect as compared to the proposed one-way restriction. The proposed variations to parking restrictions will follow the same TRO consultation process as the one-way proposals.

Point B: This point is noted and, when changes are next proposed to the parking restrictions in this area, we would propose to extend the restriction as suggested. I would point out that this process is open to public comment and objection; however, it is something which we would be in favour of putting in place. However, as you will appreciate, we must follow the correct legal process prior to implementing any new or varied parking restrictions.

Point C: We understand your comments and we will investigate them. It is our proposal to undertake surveys to determine the likely impact of diverting vehicles from Bearhope Street to Sir Michael Street and we will revert to you further in due course.

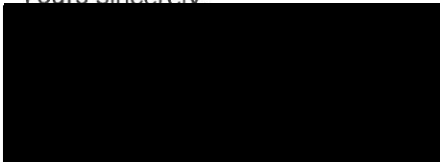
In the above circumstances, your objection to this proposed TRO will remain in place until the above survey is complete, at which point we will contact you again.

I trust that the above is of assistance to you and addresses your queries, however, please do not hesitate to contact Elaine Provan (Tel: 01475 714800) should you require any further information.

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We will be in further contact in due course.

Yours sincerely



*RM* Gerard Malone  
Head of Legal and Property Services

cc Head of Environmental & Commercial Services

Enquiries To:  
Joanna Dalglish  
Tel 01475 712123  
e-mail: [joanna.dalglish@inverclyde.gov.uk](mailto:joanna.dalglish@inverclyde.gov.uk)



Enquiries to: Joanna Dalglish  
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Our Ref: JD.JK ECO1442  
Your Ref:  
Date: 23 August 2017

Scott Allan BSc., C.Eng., M.I.C.E.  
Corporate Director  
Environment, Regeneration & Resources

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**FIRST CLASS SIGNED FOR**

Mr. Kenneth Beaton,  
16 Roxburgh Avenue,  
GREENOCK  
PA15 4LP



COPY

Dear Mr Beaton,

**Proposed Traffic Regulation Order - The Inverclyde Council, Bearhope Street, Greenock  
(One Way and Prohibition of Right Turn) Order 2016**

Further to my letter dated 19 December 2016, the Council commissioned a survey to ingather information relative to traffic flow and commissioned a study to consider the impact of making Bearhope Street one-way. Accordingly, the Head of Environmental and Commercial Services would now like to respond further, as undernoted, to Point C of your letter of objection:-

**Point C:** As you mentioned, if this Order is made there will be a change in travel patterns and the ability to travel both north and south from Regent Street and Roxburgh Street. With the proposed one-way restriction in place at Bearhope Street there would be 4 points from Roxburgh Street and Regent Street for northbound travel, namely Bruce Street, Bearhope Street, Sir Michael Street and Bank Street and 2 points for southbound travel, namely Sir Michael Street and Terrace Road. As referred to in our letter of 19<sup>th</sup> December, an independent study has now been carried out to consider what the impact would be of making Bearhope Street one-way northbound. This study showed that whilst there will be an increase in the number of vehicles using Sir Michael Street, the junction of Sir Michael Street and Regent Street/ Roxburgh Street would continue to operate within capacity during peak periods. The reduction in the number of points for vehicles turning right onto Roxburgh Street and Regent Street, in our opinion, will result in improvements to road safety.

I trust the above addresses all of your concerns and allows you to consider your position on your objection to this TRO.

However, should you feel that this information does not address your concerns, the Scottish Government has established a procedure under the Local Authorities' Traffic Orders (Procedure) (Scotland) Regulations 1999 which provides for a Hearing to consider maintained objections.

If you maintain your objections, the Council will require to consider whether or not it is necessary to convene a Hearing in terms of the Regulations. **Unless I hear from you to the contrary, within 14 days of the date of this letter, I will assume that your objection is being maintained.**

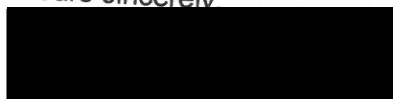
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If a Hearing is to be arranged, you will be notified of your right to be heard by or represented before the Independent Reporter or a Special Meeting of the relevant Council Committee. If you wish to exercise this right, you will be given at least 21 days' notice of the date of the Hearing. Please also note that any person having an interest in the subject matter of any hearing which may be convened has the right to send written representations for the consideration of the Reporter or the Special Committee.

I trust that the above is of assistance to you and addresses your queries, however, please do not hesitate to contact Elaine Provan, Supervisory Engineer – Traffic & Transportation (Tel: 01475 714800) should you require any further information.

I look forward to hearing further from you in this connection.

Yours sincerely

A black rectangular box redacting the signature of Gerard Malone.

**Gerard Malone**  
**Head of Legal and Property Services**



Enquiries to: Jim Kerr  
Telephone: 01475 712617  
E-mail: jim.kerr@inverclyde.gov.uk  
Our Ref: JK/JD ECO1442  
Your Ref:  
Date: 10 October 2017

Corporate Director: Scott Allan BSc., C.Eng., M.I.C.E.  
Environment, Regeneration & Resources

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**FIRST CLASS SIGNED FOR**

Mr. Kenneth Beaton,  
16 Roxburgh Avenue,  
GREENOCK  
PA15 4LP



COPY

Dear Mr. Beaton,

**Proposed Traffic Regulation Order  
The Inverclyde Council, Bearhope Street, Greenock (One Way and Prohibition of Right  
Turn) Order 2016  
The Local Authorities' Traffic Orders (Procedure) (Scotland) Regulations 1999**

I refer to our previous correspondence in relation to the above proposed Traffic Regulation Order.

I write to confirm that a Special Meeting of the Environment and Regeneration Committee meeting is to be held in this connection and, as a person who has objected to the proposed Order, in accordance with Section 9(1) of The Local Authorities' Traffic Orders (Procedure) (Scotland) Regulations 1999, I hereby give you notice that, if you so desire, an opportunity will be afforded to you to be heard at the Special Meeting of the Committee in support of your objection. Should you wish to accept this opportunity, you must respond to me **no later than 14 days of the date of this letter** to confirm your desire to attend the Special Meeting of the Committee. Thereafter, I will be in further correspondence with you to confirm the date of the Special Meeting of the Committee.

I would mention that it is open to you to withdraw your objection at any time before the Special Meeting of the Committee.

I look forward to hearing further from you.

Yours faithfully,

**Gerard Malone**  
Head of Legal and Property Services



Enquiries to: Jim Kerr  
Telephone: 01475 712617  
E-mail: jim.kerr@inverclyde.gov.uk  
Our Ref: JK/JD ECO1442  
Your Ref:  
Date: 25 October 2017

Inverclyde  
council

Corporate Director: Scott Allan BSc., C.Eng., M.I.C.E.  
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**FIRST CLASS SIGNED FOR**

Mr. Kenneth Beaton,  
16 Roxburgh Avenue,  
GREENOCK  
PA15 4LP

Dear Mr. Beaton,

**Proposed Traffic Regulation Order  
The Inverclyde Council, Bearhope Street, Greenock (One Way and Prohibition of Right  
Turn) Order 2016  
The Local Authorities' Traffic Orders (Procedure) (Scotland) Regulations 1999**

I refer to our previous correspondence in relation to the above proposed Traffic Regulation Order and in particular to my letter of 10<sup>th</sup> October 2017 confirming that a Special Meeting of the Environment and Regeneration Committee is to be held in this connection.

In accordance with Section 9(2) of The Local Authorities' Traffic Orders (Procedure) (Scotland) Regulations 1999, I hereby give you notice that the Hearing will commence at **3.00pm on Tuesday 28<sup>th</sup> November 2017** in the Council Chambers, Municipal Buildings, Clyde Square, Greenock, PA15 1LX.

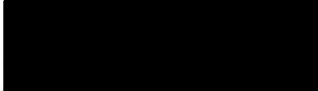
Further, in accordance with the Code of Practice, Procedure for Hearings, I enclose a copy of the Council's Statement of Case in relation the proposed Order to which the Council intends to refer at the Special Meeting.

As explained to you in my earlier letter of 15<sup>th</sup> June, I confirm that you have the right to send written representations for the consideration of the Committee. Should you wish to provide the Council with written representations, please ensure that these are delivered to the Council no later than **15<sup>th</sup> November 2017**. In addition, if you wish the Committee to have regard to any documents which support your case, please ensure that these are also delivered to the Council no later than **15<sup>th</sup> November 2017**.

**I would be grateful if you could confirm to me as soon as possible whether or not you will be attending the above Special Meeting.**

I look forward to hearing further from you.

Yours faithfully,

  
**Gerard Malone**  
Head of Legal and Property Services



# APPENDIX 3



**THE INVERCLYDE COUNCIL**

**BEARHOPE STREET, GREENOCK  
(ONE WAY AND PROHIBITION OF RIGHT TURN)  
ORDER 2016**

**TRAFFIC REGULATION ORDER**

**THE INVERCLYDE COUNCIL  
BEARHOPE STREET, GREENOCK  
(ONE WAY AND PROHIBITION OF RIGHT TURN) ORDER 2016**

We, The Inverclyde Council in exercise of the powers conferred on us by Sections 1(1), 2(1) to (3) of the Road Traffic Regulation Act 1984 (as amended) ("the Act") and of all other enabling powers and after consulting with the Chief Constable of the Police Service of Scotland (Seirbheis Phoilis na h-Alba) in accordance with Part III of Schedule 9 to the Act, hereby make the following Order:

**1.0 Commencement and citation**

- 1.1 This Order may be cited as "The Inverclyde Council, Bearhope Street, Greenock (One Way and Prohibition of Right Turn) Order 2016" and shall come into operation on the ## day of ## Two Thousand and Seventeen.

**2.0 Interpretation**

- 2.1 In this Order, except where the context otherwise requires, the following expression has the meaning hereby respectively assigned to it:

"Vehicle" means a vehicle of any description and includes a machine or implement of any kind drawn or propelled along roads whether or not by mechanical power.

**3.0 Prohibition and restriction**

- 3.1 No person shall drive or cause or permit to be driven any Vehicle on the length of road specified in Column 1 of Schedule 1 to this Order otherwise than in the direction specified in Column 2 of the said Schedule, as referred to in the plan annexed to this Order.
- 3.2. No person shall drive or cause or permit to be driven any Vehicle on the road specified in Column 1 of Schedule 2 to this Order so as to make a right turn in to the road specified in Column 2 of the said Schedule, as referred to in the plan annexed to this Order.

**SCHEDULE 1**

**BEARHOPE STREET, GREENOCK**

**ONE-WAY ONLY**

Length of Road in Inverclyde  
within the Town of Greenock

Permitted Direction  
of Travel

Bearhope Street

From the junction with Roxburgh Street to the  
junction with Royal Court for a distance of  
62 metres or thereby.

Northeastwards

**SCHEDULE 2**

**BEARHOPE STREET, GREENOCK**

**RIGHT-TURN BAN**

FROM

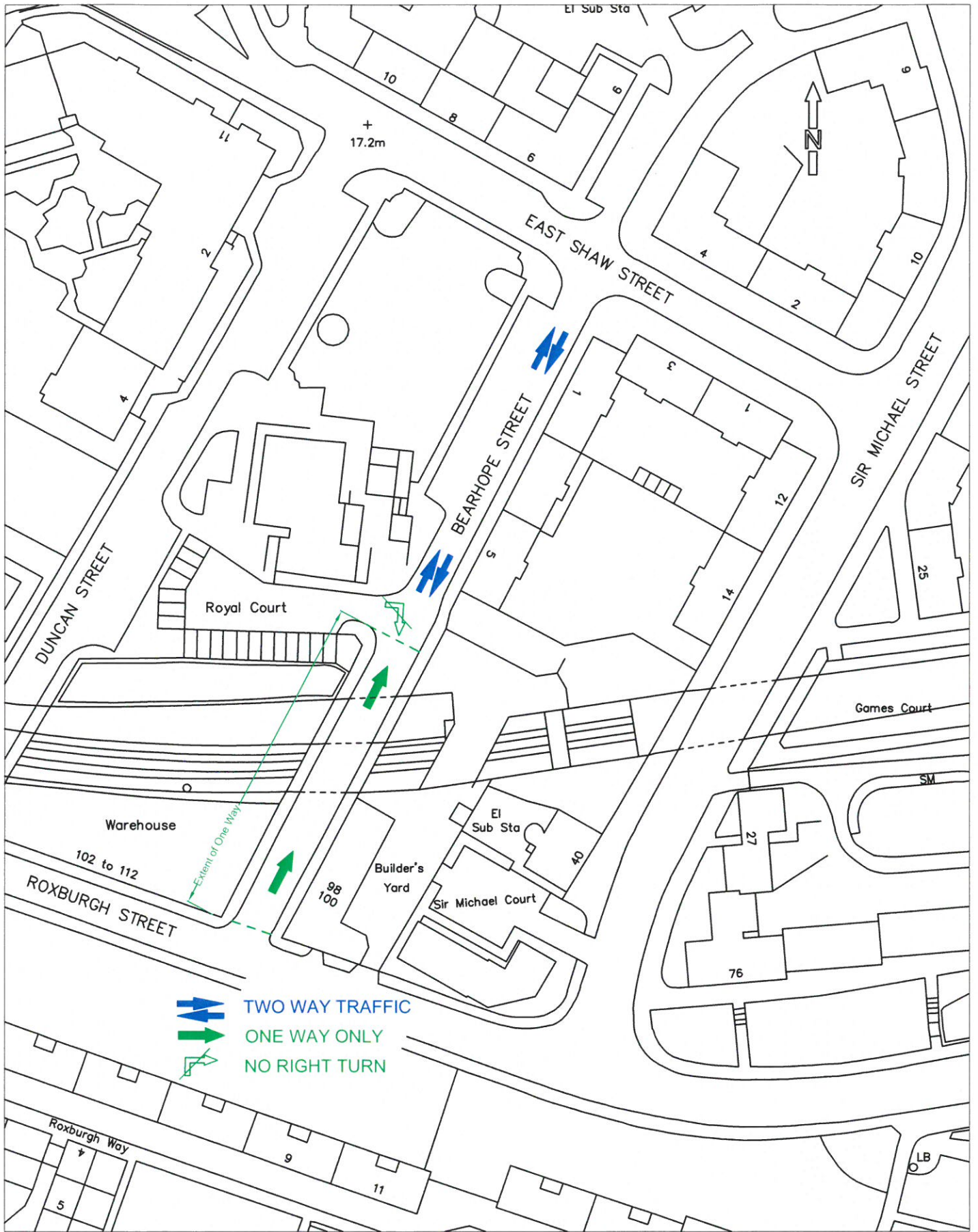
Length of Road in Inverclyde  
within the Town of Greenock




Royal Court

TO

Length of Road in Inverclyde  
within the Town of Greenock

Bearhope Street



-  TWO WAY TRAFFIC
-  ONE WAY ONLY
-  NO RIGHT TURN



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<b>Consultancy Section</b> Original Drawing Size 297x210 (A4)	HEAD OF SERVICE <b>Robert M Graham</b>	<b>TRAFFIC REGULATION ORDER C179</b> <b>BEARHOPE ST, GREENOCK</b> <b>ONE WAY ONLY</b>	Scale : NTS	Date : SEPT 2016
	71 EAST HAMILTON STREET GREENOCK, PA15 2UA		Prepared by : R.Mackay	Checked by :
			Drawn by : R.Mackay	Approved by :
			Drawing No. :	File No. : 19/38

# APPENDIX 4

**THE INVERCLYDE COUNCIL, BEARHOPE STREET,  
GREENOCK (ONE WAY AND PROHIBITION OF  
RIGHT TURN) ORDER 2016**

**TRAFFIC REGULATION ORDER**

**STATEMENT OF CASE**



## **Background**

### **Statement of Reasons**

It is considered necessary to make the above Traffic Regulation Order (TRO) to avoid danger to persons and other traffic using the road.

### **Introduction**

Correspondence was received from a business on Bearhope Street, Greenock seeking help to address difficulties they have with loading and unloading at their business. An officer of the Roads Service met with the owner to discuss these issues and try to provide a solution.

Following a site visit and having witnessed the travel patterns at this location a scheme was developed which will not only address the loading issues but will address traffic management issues on Bearhope Street and Roxburgh Street. The current travel patterns are dangerous with the business having to park on the opposite side of Roxburgh Street and move stock across a two way road.

The solution requires 2 separate TROs: one to address the parking at the junction of Roxburgh Street and Bearhope Street ("the forthcoming TRO") and one to make the road one-way with a consequential need to ban right turns from Royal Court. There is a need to make the road one-way due to the width of Bearhope Street and the fact that it is not possible to maintain two way operation and allow a loading bay for HGVs. The one way operation is not dependant on the forthcoming parking TRO.

The one-way TRO was promoted and issued for public consultation on 10 November 2016 with responses invited by 1 December 2016.

During the public consultation 2 objections were received. Both were concerned about the impact the proposed one way would have on the adjacent junction of Regent Street, Roxburgh Street and Sir Michael Street.

To address these concerns an external study was commissioned by the Roads Service to investigate the likely impact of the one way system on the Sir Michael Street junction (the study). The study found that, although there would be more delay at this junction, it would still operate within capacity with the additional traffic from Bearhope Street.

Following a review of the study officers wrote to the 2 objectors to address the concerns they had raised and 1 of the objectors maintained their objection.

### **Benefits**

The Council consider benefits will be achieved as fewer vehicles will use the one way section of road between Roxburgh Street and Royal Court. The Council also considers that the dangerous issues identified above will be reduced.

By making the road one way it also makes it possible for a local business to load and unload stock from their property in a safer manner.

It will also remove the ability for drivers to turn right from Bearhope Street onto Roxburgh Street where there have been several road collisions in the past 3 years.



## **Public Consultation**

The TRO was issued for public consultation on 10 November 2016 with responses invited by 1 December 2016.

A total of 2 objections were received. Officers wrote to the objectors to give reasons for the TRO and to address their objections and as a result 1 objector removed their objection and 1 objector maintained their objection.

## **Maintained Objections and the Council's Responses**

The maintained objection raised key themes. The key themes are listed below and details of IC's responses to each of them are provided verbatim.

### **Parking on Bearhope Street and Roxburgh Street:**

**Objection:** May I respectfully suggest that the presence of danger on this road is caused by parked cars/ vans on both sides of the length of Bearhope Street in question (making it, in effect, a single track road) and also parked cars/ vans on Roxburgh Street at both corners of Bearhope Street (making it extremely difficult to emerge onto Roxburgh Street, especially when turning right).

The danger could be avoided by simply making the length of Bearhope Street in question "no parking", at least on one side. And, also making an appropriate length of road "no parking" on Roxburgh Street at both corners of Bearhope Street.

**Response:** I can confirm that there are proposals to address the parking restrictions on Bearhope Street and Roxburgh Street; however, they will form part of a separate future proposed Traffic Regulation Order (TRO) as they will have a different legal effect as compared to the proposed one-way restriction. The proposed variation to parking restrictions will follow the same TRO consultation process as the one-way proposals.

### **Parking on Regent Street and Roxburgh Street adjacent to Sir Michael Street:**

**Objection:** While the avoidance of danger is being mentioned, this would also be an appropriate action on Roxburgh Street at the East most corner of Sir Michael Street.

When in a Southward direction and turning Westward, the curvature of the road makes it necessary to edge out so far that you are actually across the Eastward carriageway.

The danger could be alleviated by increasing the "no parking" distance from the corner. (note, the priority of this road has been changed before but was changed back as it was not effective)

**Response:** This point is noted and, when changes are next proposed to the parking restrictions in this area, we would propose to extend the restriction as suggested. I would point out that this process is open to public comment and objection; however, it is something which we would be in favour of putting in place. However, as you will appreciate, we must follow the correct legal process prior to implement any new or varied parking restrictions.

### **Traffic management in surrounding area:**

**Objection:** The above mentioned remedial action at Sir Michael Street would be even more of a necessity noting the following second reason I object to this Order:-

Between the corner of Brachelston Street and Inverkip Street as a West most point AND the corner of Terrace Road and Regent Street as an East most point, the options for travelling in

a Northward direction across Roxburgh Street would remain at 5, while the options for travelling in a Southward direction would be reduced from 2 to 1.

All traffic heading in a Southward direction would therefore be forced up Sir Michael Street, which as already stated would require major remedial action.

**Response:** As you mentioned, if this Order is made there will be a change in travel patterns and the ability to travel both north and south from Regent Street and Roxburgh Street. With the proposed one-way restriction in place at Bearhope Street there would be 4 points from Roxburgh Street and Regent Street for northbound travel, namely Bruce Street, Bearhope Street, Sir Michael Street and Bank Street and 2 points for southbound travel, namely Sir Michael Street and Terrace Road. As referred to in our letter of 19<sup>th</sup> December, an independent study has now been carried out to consider what the impact would be of making Bearhope Street one-way northbound. This study showed that whilst there will be an increase in the number of vehicles using Sir Michael Street, the junction of Sir Michael Street and Regent Street/ Roxburgh Street would continue to operate within capacity during peak periods. The reduction in the number of points for vehicles turning right onto Roxburgh Street and Regent Street, in our opinion, will result in improvements to road safety.

A copy of the study is included as Appendix 1.

### **Conclusion**

The Council submits that the objection should be dismissed and the TRO made as proposed.



# Inverclyde council

## **Sir Michael Street, Greenock, Junction Capacity Assessment**

June 2017



## Document Control

Document: Junction Appraisal

Project: Sir Michael Street Junction Assessment

Client: Inverclyde Council

Job Number: A101644

Revision: -

Date: **June 2017**

Prepared by  
**Jordan Dunn**

Checked by  
**Liz Hunter**

Approved By  
**Mark Rinkus**

Description of Revision

Revision: Inclusion of client comments

Date: 29/08/2017

Prepared by  
**Jordan Dunn**

Checked by  
**Mark Rinkus**

Approved By  
**Mark Rinkus**

Description of Revision

Revision:

Date:

Prepared by

Checked by

Approved By

Description of Revision



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Appendix A – Traffic Flow Figures

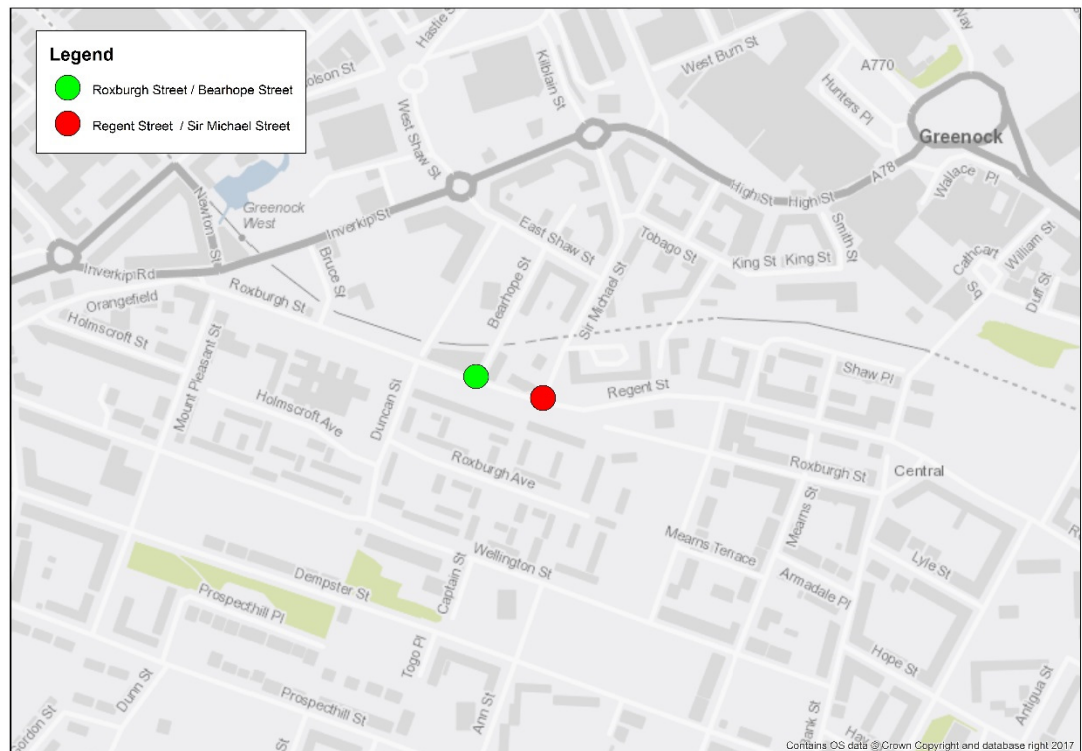
Appendix B – PICADY Model Output

# 1 Introduction

1.1 WYG has been commissioned by Inverclyde Council to provide traffic and transportation advice in relation the peak hour operation of the Sir Michael Street / Regent Street junction in Greenock following proposed traffic movement amendments to the adjacent Bearhope Street / Roxburgh Street junction.

1.2 The location of each of the junctions is indicated in Figure 1.1.

**Figure 1.1 Site Location**



1.3 Inverclyde Council are proposing a Traffic Regulation Order (TRO) on Bearhope Street which will prohibit motorised vehicles travelling southbound on Bearhope Street between Roxburgh Street and Royal Court.

**Photo 1.1 Bearhope Street Existing Junction Arrangement**



1.4 Following this introduction, the report considers:

- Proposed Traffic Flow Alterations;
- Traffic Impact Assessment; and
- Summary and Conclusions.

## 2 Proposed Traffic Flow Alterations

### Existing Traffic Conditions

2.1 Traffic surveys were commissioned by Inverclyde Council and undertaken by an independent survey specialist on Tuesday 17th January 2017 between 07:30-19:30 at the following locations:

- Sir Michael Street / Regent Street 3-arm priority junction; and
- Bearhope Street / Roxburgh Street 3-arm priority Junction.

2.2 Analysis of the data has identified the peak hours to be 08:30-09:30 and 16:30-17:30. The surveys recorded the class, volume and movements of vehicles passing through the junction. No vehicle queue length information was collected.

2.3 Figures A1 and A2 of Appendix A summarise the peak hour traffic data in the industry standard format of passenger car units (pcus).

2.4 Analysis of the peak hour traffic data indicates that westbound flows on Regent Street / Roxburgh Street are higher than eastbound flows during both the AM and PM peak periods. It is also noted that northbound and southbound traffic flows on Sir Michael Street are relatively balanced during both peak periods. By comparison, the southbound traffic flows on Bearhope Street are greater than northbound.

2.5 It should be noted that this assessment focusses on the peak hour operation of the Sir Michael Street / Regent Street junction and that traffic flows associated with individual traffic movements are subject to normal daily fluctuation.

### Future Year Traffic Flows

2.6 In order to provide a robust assessment of the traffic impact of Bearhope Street becoming one-way northbound it has been assumed that following implementation, all existing southbound traffic will redistribute onto Sir Michael Street.

2.7 This assumption is based on a review of the surrounding road network and acknowledging the limited attractiveness of alternative route options.

2.8 No allowance has been made for future growth in traffic flows due to other changes in the local road network or future development growth.



2.9 Figures A3 and A4 of Appendix A summarise the Future Year peak hour traffic data and is presented in the industry standard passenger car units (pcus).



### **3 JUNCTION ASSESSMENT**

#### **3.1 Operational Assessment Methodology**

3.2 To assess the operational performance of the identified junction, the Transport Research Laboratory (TRL) industry standard program Junctions9 Picady software has been used.

3.3 Geometric inputs for the junction was extracted from OS Base mapping combined with on-site observations and consideration of best practice.

3.4 The junction is observed to operate freely, with no regular parking occurring within the curtilage of the junction that would otherwise require consideration in the assessment.

#### **3.5 Operational Assessment**

3.6 Before testing of future year traffic flows was undertaken, modelling was undertaken using observed traffic flows to ensure that the models can reasonably replicate existing traffic conditions. Noting the absence of vehicle queue length data, the assessments were validated using maximum queue lengths observations made on-site by WYG.

3.7 Observed and future year traffic conditions, as relevant, for the junction are reported below with the following industry standard performance indicators being identified by the assessment programs:

- Maximum ratio of flow to capacity (RFC) where a  $RFC < 0.85^1$  is typically representative of junctions operating within capacity; and
- Maximum queue length for the peak 15 minute period within the assessed peak hour for priority junctions.

3.8 Model outputs are provided in Appendix B of this report whilst a summary of the junction's performance is provided in the remainder of this chapter.

---

1.1 <sup>1</sup> Ratio of Flow to Capacity (RFC) is a term used in Transport Modelling to assess the operation of a junction. The result provides an indication of likely junction performance, with a value of 1 implying that the demand flow is equal to the capacity. Typically, a value of 0.85 is seen as the practical capacity, with results higher than this more likely to experience queuing or delay.

3.9 Tables 3.1 and 3.2 summarise the Junctions9 Picady assessment results for the AM and PM peak hours in the observed and future year traffic situations respectively.

**Table 3.1: Regent Street / Sir Michael Street Observed PICADY Results**

Movement	AM Peak		PM Peak	
	RFC	Queue	RFC	Queue
Sir Michael Street Left	0.416	1	0.453	1
Sir Michael Street Right	0.180	0	0.404	1
Regent Street Ahead / Right	0.444	1	0.703	4

**Table 3.2: Regent Street / Sir Michael Street Future Year PICADY Results**

Movement	AM Peak		PM Peak	
	RFC	Queue	RFC	Queue
Sir Michael Street Left	0.619	2	0.761	3
Sir Michael Street Right	0.462	1	0.741	3
Regent Street Ahead / Right	0.429	1	0.677	4

3.10 The analysis indicates that with the TRO in place, the junction will operate within theoretical practical capacity during the AM and PM peak periods with a maximum RFC of 0.761 and 3 vehicle queue predicted during PM period on the left turn movement from Sir Michael Street. This compares to the 0.453 and 1 vehicle queue in the existing situation.

3.11 The predicted increase in southbound traffic on the Sir Michael Street arm associated with the proposed traffic flow alterations on Bearhope Street will reduce the available capacity of the Sir Michael street approach and increase the level of peak time vehicle queuing. However, the junction will continue to operate within theoretical practical capacity during the assessed peak hours.

3.12 It should be noted that the above results are based on the theoretical worst case of all existing southbound traffic redistributing from Bearhope Street onto Sir Michael Street. In reality, it is likely that some diverted traffic will also redistribute onto the alternative

southbound routes between the A8 and Regent Street such as Terrace Road and Dellingburn Street.

**3.13 Review of Road Safety**

3.14 Accident data was provided by Inverclyde Council for the period 2014 to 2016. It should be noted that the data does not include any near misses or collisions in which the incident was not reported.

3.15 A review of the data identified that a total of 8 accident had occurred during the 3 year period at or within 20m of the either the Bearhope Street / Roxburgh Street or Sir Michael Street / Regent Street junctions. Of these 3 were classified as slight and 5 were classified as damage only with 5 accidents at the Bearhope Street / Roxburgh Street junction and 3 accidents at the Sir Michael Street / Regent Street junction

3.16 In nearly all instances, failure to look properly or disobeying road markings / signs was the key contributing factor although in a number of these accidents poor weather was also a contributing factor.



## **4 SUMMARY AND RECOMMENDATIONS**

### **4.1 Summary**

4.2 WYG has been commissioned by Inverclyde Council to provide traffic and transportation advice in relation to the peak hour operation of the Sir Michael Street / Regent Street junction in Greenock following proposed traffic movement amendments at the adjacent Bearhope Street / Roxburgh Street junction.

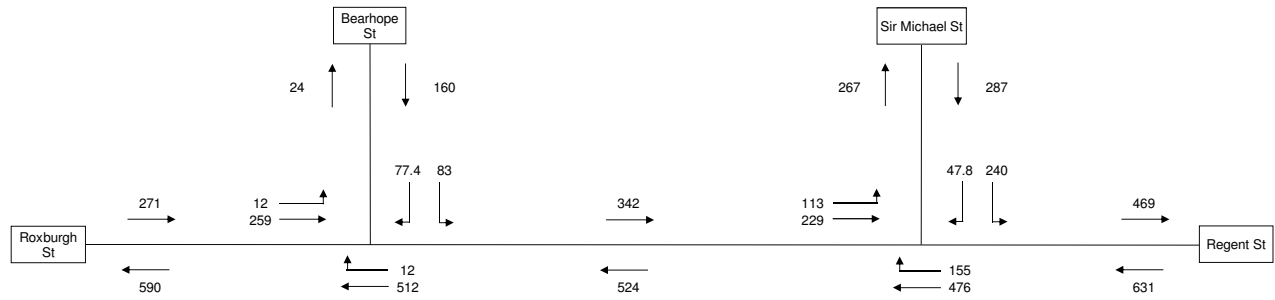
### **4.3 Conclusions**

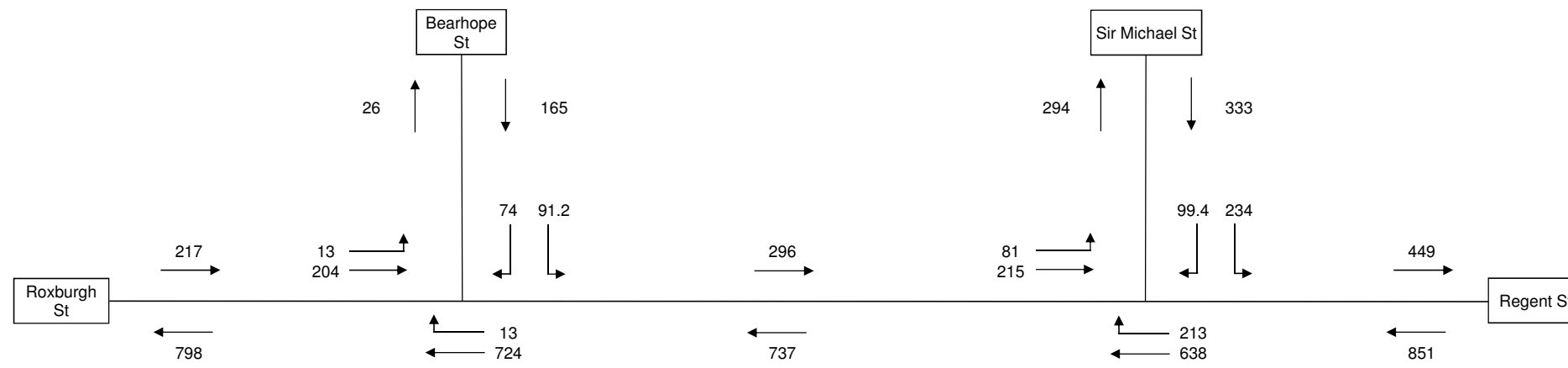
- 4.4 This report assessed the transport issues surrounding the proposal. It is concluded that:
- The Sir Michael Street / Regent Street junction currently operates within practical capacity during the AM and PM peak hours;
  - The increase in southbound traffic at the Sir Michael / Regent Street junction following the southbound closure of Bearhope Street will result in a reduction in junction capacity. A minor increase in vehicle queueing on the Sir Michael Street approach to the junction is expected, although the junction will continue to operate within practical capacity; and
  - The assessment provides a snapshot of junction operation during the busiest peak hours. During all other periods, vehicle queueing and delay is likely to be less than reported in this note.

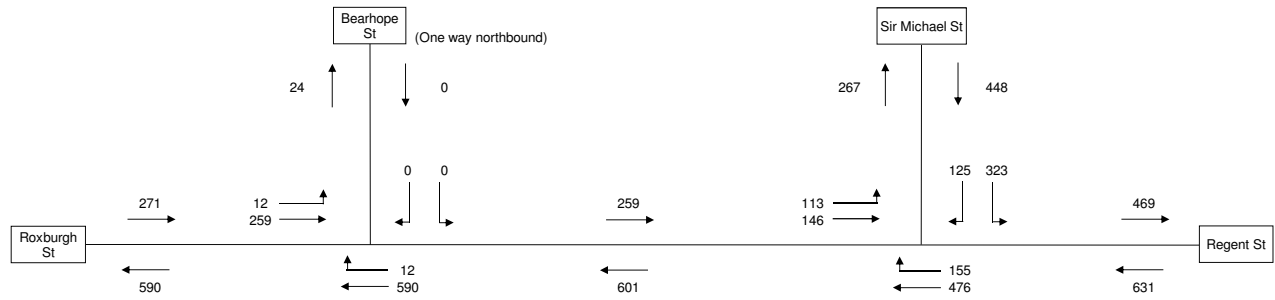


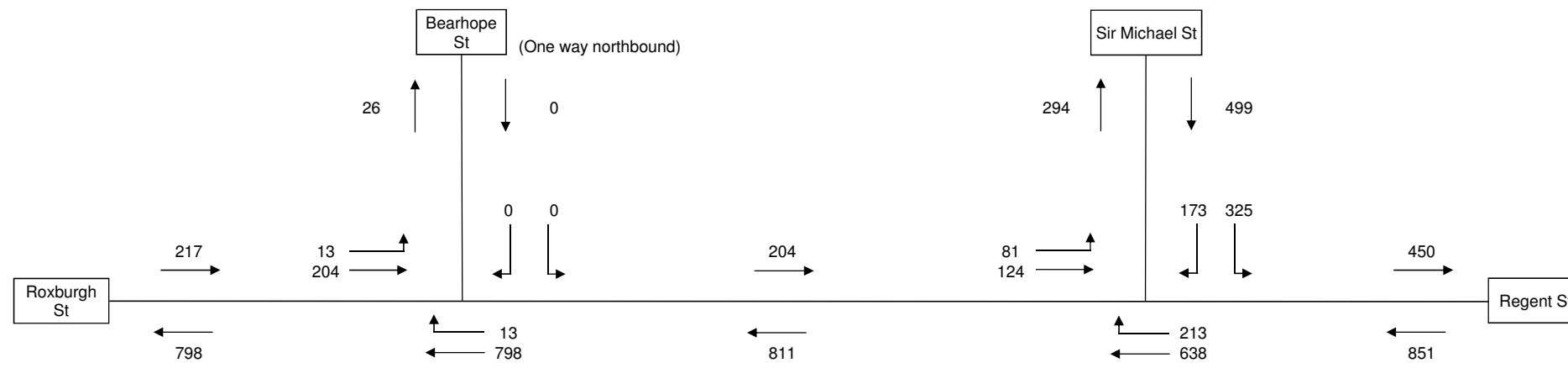


## **APPENDIX A – TRAFFIC FLOW SPREADSHEETS**













## **APPENDIX B – PICADY MODEL OUTPUTS**

<h1>Junctions 9</h1>
<h2>PICADY 9 - Priority Intersection Module</h2>
Version: 9.0.0.4211 [] © Copyright TRL Limited, 2017
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk
<b>The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution</b>

Filename: Sir Michael Street Junction.j9  
Path: C:\Users\jordan.dunn\Desktop  
Report generation date: 25/08/2017 15:19:34

## Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	Observed							
	<del>Proposed</del>							
Stream B-C	1.5	15.95	0.61	C				
Stream B-A	0.8	21.64	0.45	C				
Stream C-AB	1.3	6.89	0.43	A				
Stream C-A								
Stream A-B								
Stream A-C								

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

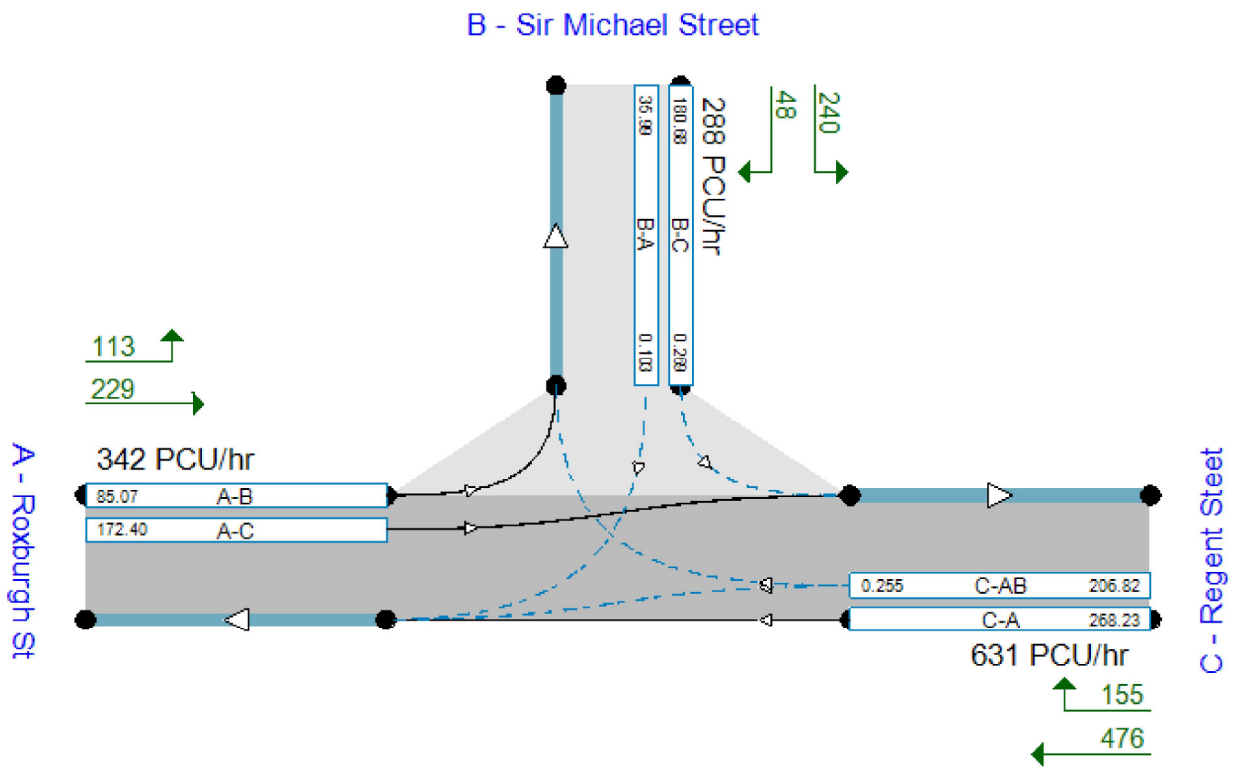
## File summary

### File Description

Title	AM Existing
Location	Sir Michael Street Greenock
Site number	
Date	17/05/2017
Version	2
Status	Observed
Identifier	
Client	Inverclyde Council
Jobnumber	A103631
Enumerator	WYG*george.ridley
Description	AM Observed

## Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Showing original traffic demand (PCU/hr).  
Streams (upstreams) show Total Demand (PCU/hr); Streams (downstreams) show RFC (%)

The junction diagram reflects the last run of Junctions.

### Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

### Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Model start time (HH:mm)	Model finish time (HH:mm)	Time segment length (min)
D1	Observed	AM	AM Observed	ONE HOUR	08:30	10:00	15

# Observed , AM

## Data Errors and Warnings

*No errors or warnings*

# Junction Network

## Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1 - Roxburgh / Sir Michael St	Roxburgh / Sir Michael St	T-Junction	Two-way	4.26	A

## Junction Network Options

Driving side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Name	Description	Arm type
A	Roxburgh St		Major
B	Sir Michael Street		Minor
C	Regent Steet		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Regent Steet	9.00			80.0	✓	0.00

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

## Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Sir Michael Street	One lane plus flare	10.00	6.00	4.40	4.00	4.00		2.00	28	28

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	462.526	0.073	0.185	0.116	0.264
1	B-C	741.534	0.099	0.250	-	-
1	C-B	620.292	0.209	0.209	-	-

*The slopes and intercepts shown above do NOT include any corrections or adjustments.*

*Streams may be combined, in which case capacity will be adjusted.*

*Values are shown for the first time segment only; they may differ for subsequent time segments.*

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.42	9.70	0.7	A
B-A	0.18	14.98	0.2	B
C-AB	0.44	7.19	1.3	A
C-A				
A-B				
A-C				

## Main Results for each time segment

### Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	180.68	672.27	0.269	179.23	0.4	7.282	A
B-A	35.99	350.43	0.103	35.53	0.1	11.416	B
C-AB	206.82	810.51	0.255	204.70	0.5	5.936	A
C-A	268.23			268.23			
A-B	85.07			85.07			
A-C	172.40			172.40			

### Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	215.76	657.29	0.328	215.28	0.5	8.135	A
B-A	42.97	327.04	0.131	42.83	0.1	12.659	B
C-AB	280.17	851.68	0.329	279.15	0.8	6.301	A
C-A	287.09			287.09			
A-B	101.58			101.58			
A-C	205.87			205.87			

### Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	264.24	635.59	0.416	263.38	0.7	9.648	A
B-A	52.63	293.41	0.179	52.37	0.2	14.917	B
C-AB	402.24	907.20	0.443	400.07	1.3	7.128	A
C-A	292.50			292.50			
A-B	124.42			124.42			
A-C	252.13			252.13			

### Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	264.24	635.35	0.416	264.22	0.7	9.698	A
B-A	52.63	293.00	0.180	52.62	0.2	14.976	B
C-AB	403.41	908.22	0.444	403.33	1.3	7.191	A
C-A	291.33			291.33			
A-B	124.42			124.42			
A-C	252.13			252.13			

### Main results: (09:30-09:45)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	215.76	656.94	0.328	216.60	0.5	8.192	A
B-A	42.97	326.48	0.132	43.22	0.2	12.720	B
C-AB	281.47	853.18	0.330	283.59	0.8	6.370	A
C-A	285.79			285.79			
A-B	101.58			101.58			
A-C	205.87			205.87			

### Main results: (09:45-10:00)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	180.68	671.83	0.269	181.18	0.4	7.346	A
B-A	35.99	349.82	0.103	36.14	0.1	11.481	B
C-AB	208.15	811.62	0.256	209.23	0.5	6.004	A

<b>C-A</b>	266.90			266.90			
<b>A-B</b>	85.07			85.07			
<b>A-C</b>	172.40			172.40			



<h1>Junctions 9</h1>
<h2>PICADY 9 - Priority Intersection Module</h2>
Version: 9.0.0.4211 [] © Copyright TRL Limited, 2017
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trisoftware.co.uk
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Filename: Sir Michael Street Junction.j9  
 Path: C:\Users\jordan.dunn\Desktop  
 Report generation date: 25/08/2017 15:27:28

## Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	<del>Observed</del>							
	Proposed							
Stream B-C	1.6	16.39	0.62	C				
Stream B-A	0.8	22.39	0.46	C				
Stream C-AB	1.3	6.89	0.43	A				
Stream C-A								
Stream A-B								
Stream A-C								

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

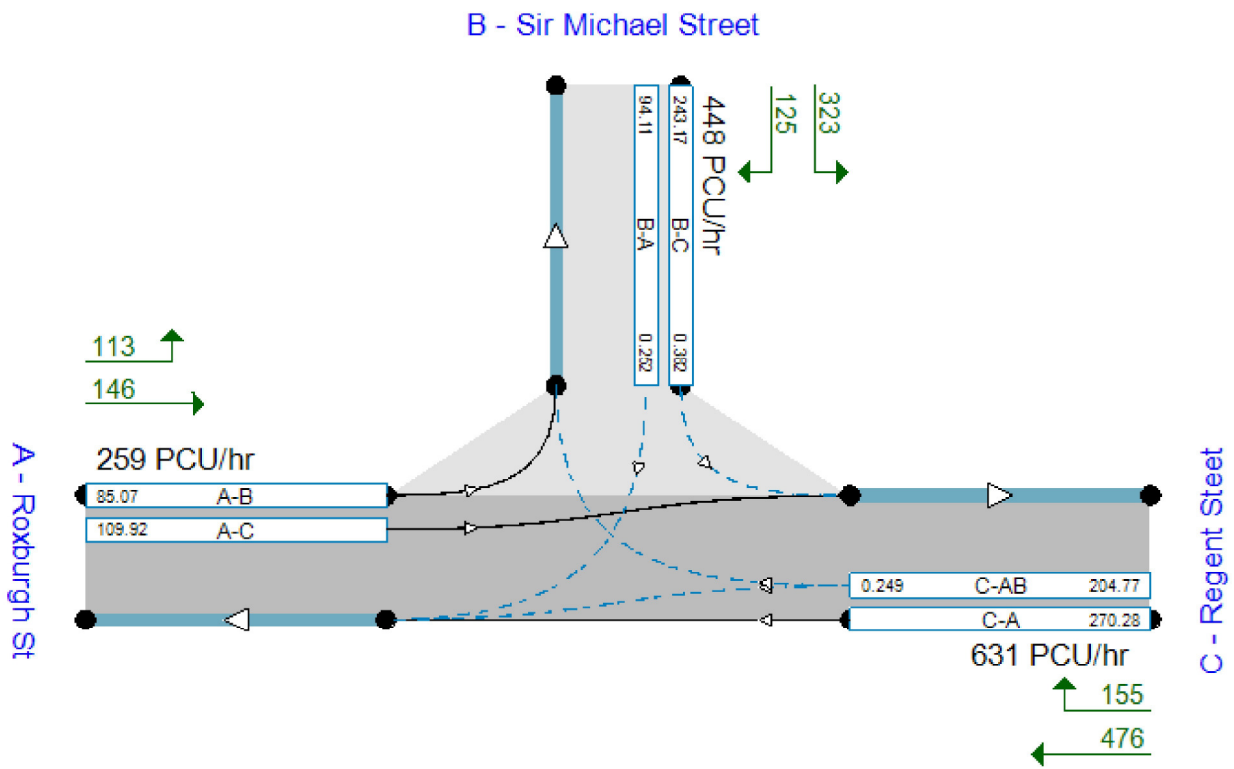
## File summary

### File Description

Title	AM Proposed
Location	Sir Michael Street Greenock
Site number	
Date	17/05/2017
Version	2
Status	Proposed
Identifier	
Client	Inverclyde Council
Jobnumber	A103631
Enumerator	WYG*george.ridley
Description	AM Proposed

## Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Showing original traffic demand (PCU/hr).  
Streams (upstreams) show Total Demand (PCU/hr); Streams (downstreams) show RFC (%)

The junction diagram reflects the last run of Junctions.

### Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

### Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Model start time (HH:mm)	Model finish time (HH:mm)	Time segment length (min)
D5	Proposed	AM	AM Observed	ONE HOUR	08:30	10:00	15

# Proposed, AM

## Data Errors and Warnings

*No errors or warnings*

# Junction Network

## Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1 - Roxburgh / Sir Michael St	Roxburgh / Sir Michael St	T-Junction	Two-way	7.69	A

## Junction Network Options

Driving side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Name	Description	Arm type
A	Roxburgh St		Major
B	Sir Michael Street		Minor
C	Regent Steet		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Regent Steet	9.00			80.0	✓	0.00

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

## Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Sir Michael Street	One lane plus flare	10.00	6.00	4.40	4.00	4.00		2.00	28	28

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	482.082	0.076	0.193	0.121	0.276
1	B-C	716.462	0.095	0.241	-	-
1	C-B	620.292	0.209	0.209	-	-

*The slopes and intercepts shown above do NOT include any corrections or adjustments.*

*Streams may be combined, in which case capacity will be adjusted.*

*Values are shown for the first time segment only; they may differ for subsequent time segments.*

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.62	16.39	1.6	C
B-A	0.46	22.39	0.8	C
C-AB	0.43	6.89	1.3	A
C-A				
A-B				
A-C				

## Main Results for each time segment

### Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	243.17	636.84	0.382	240.74	0.6	9.035	A
B-A	94.11	373.15	0.252	92.78	0.3	12.782	B
C-AB	204.77	820.99	0.249	202.73	0.5	5.818	A
C-A	270.28			270.28			
A-B	85.07			85.07			
A-C	109.92			109.92			

### Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	290.37	614.82	0.472	289.30	0.9	11.021	B
B-A	112.37	345.88	0.325	111.82	0.5	15.343	C
C-AB	276.28	863.54	0.320	275.34	0.7	6.132	A
C-A	290.97			290.97			
A-B	101.58			101.58			
A-C	131.25			131.25			

### Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	355.63	576.26	0.617	352.96	1.5	15.927	C
B-A	137.63	299.48	0.460	136.25	0.8	21.865	C
C-AB	394.24	920.69	0.428	392.28	1.2	6.837	A
C-A	300.50			300.50			
A-B	124.42			124.42			
A-C	160.75			160.75			

### Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	355.63	574.64	0.619	355.47	1.6	16.394	C
B-A	137.63	298.11	0.462	137.54	0.8	22.389	C
C-AB	395.27	921.58	0.429	395.20	1.3	6.891	A
C-A	299.47			299.47			
A-B	124.42			124.42			
A-C	160.75			160.75			

### Main results: (09:30-09:45)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	290.37	613.16	0.474	293.03	0.9	11.338	B
B-A	112.37	344.71	0.326	113.74	0.5	15.675	C
C-AB	277.44	864.87	0.321	279.35	0.8	6.192	A
C-A	289.81			289.81			
A-B	101.58			101.58			
A-C	131.25			131.25			

### Main results: (09:45-10:00)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	243.17	635.44	0.383	244.33	0.6	9.233	A
B-A	94.11	372.31	0.253	94.71	0.3	12.996	B
C-AB	206.02	822.01	0.251	207.02	0.5	5.879	A

<b>C-A</b>	269.03			269.03			
<b>A-B</b>	85.07			85.07			
<b>A-C</b>	109.92			109.92			

<h1>Junctions 9</h1>
<h2>PICADY 9 - Priority Intersection Module</h2>
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Filename: Sir Michael Street Junction.j9  
 Path: C:\Users\jordan.dunn\Desktop  
 Report generation date: 25/08/2017 15:21:48

## Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	Observed							
	<del>Proposed</del>							
Stream B-C					1.5	15.95	0.61	C
Stream B-A					0.8	21.64	0.45	C
Stream C-AB					1.3	6.89	0.43	A
Stream C-A								
Stream A-B								
Stream A-C								

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

## File summary

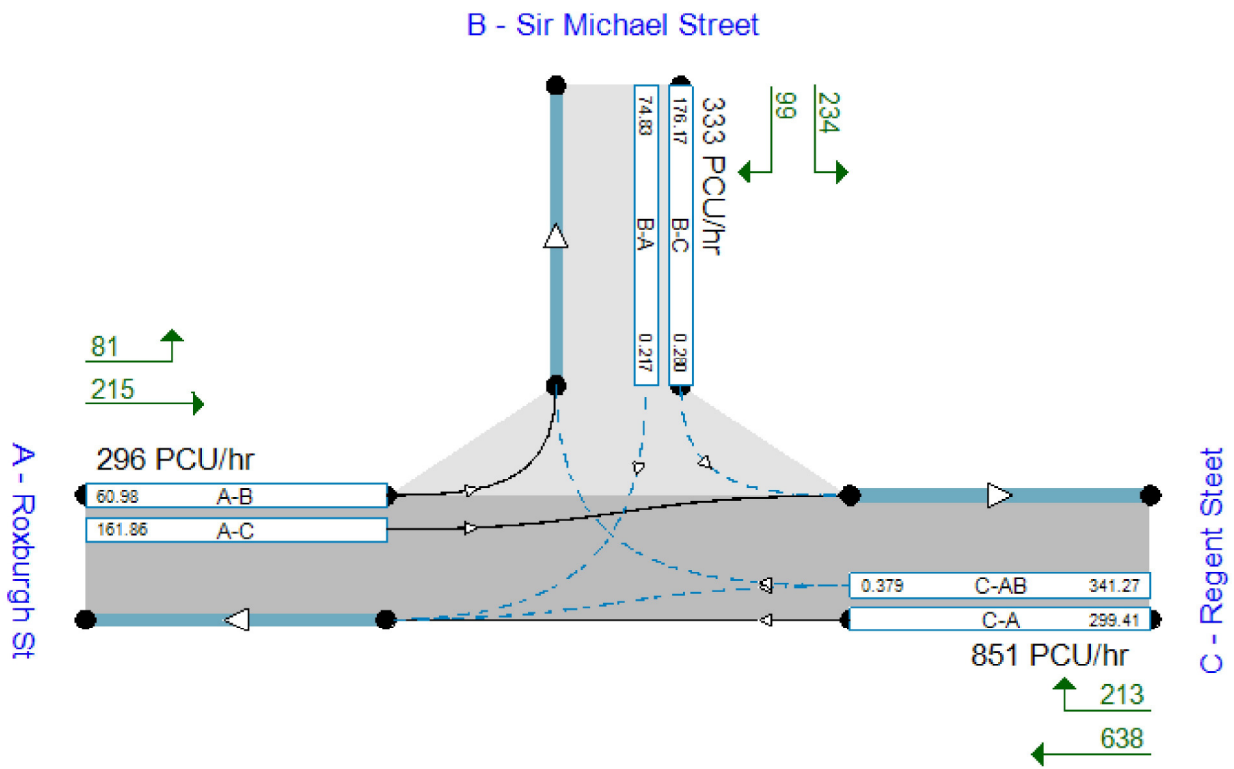
### File Description

Title	PM Existing
Location	Sir Michael Street Greenock
Site number	
Date	17/05/2017
Version	2
Status	Observed
Identifier	
Client	Inverclyde Council
Jobnumber	A103631
Enumerator	WYG*george.ridley
Description	PM Observed

## Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin





Showing original traffic demand (PCU/hr).  
Streams (upstreams) show Total Demand (PCU/hr); Streams (downstreams) show RFC (%)

The junction diagram reflects the last run of Junctions.

### Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

### Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Model start time (HH:mm)	Model finish time (HH:mm)	Time segment length (min)
D2	Observed	PM	PM Observed	ONE HOUR	16:30	18:00	15

# Observed , PM

## Data Errors and Warnings

*No errors or warnings*

# Junction Network

## Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1 - Roxburgh / Sir Michael St	Roxburgh / Sir Michael St	T-Junction	Two-way	7.92	A

## Junction Network Options

Driving side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Name	Description	Arm type
A	Roxburgh St		Major
B	Sir Michael Street		Minor
C	Regent Steet		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Regent Steet	9.00			80.0	✓	0.00

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

## Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Sir Michael Street	One lane plus flare	10.00	6.00	4.40	4.00	4.00		2.00	28	28

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	485.403	0.077	0.194	0.122	0.278
1	B-C	712.204	0.095	0.240	-	-
1	C-B	620.292	0.209	0.209	-	-

*The slopes and intercepts shown above do NOT include any corrections or adjustments.*

*Streams may be combined, in which case capacity will be adjusted.*

*Values are shown for the first time segment only; they may differ for subsequent time segments.*

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.45	11.56	0.8	B
B-A	0.40	22.30	0.7	C
C-AB	0.70	12.04	4.1	B
C-A				
A-B				
A-C				

## Main Results for each time segment

### Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	176.17	630.21	0.280	174.63	0.4	7.878	A
B-A	74.83	344.53	0.217	73.74	0.3	13.243	B
C-AB	341.27	899.73	0.379	337.32	1.0	6.392	A
C-A	299.41			299.41			
A-B	60.98			60.98			
A-C	161.86			161.86			

### Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	210.36	608.37	0.346	209.81	0.5	9.019	A
B-A	89.36	314.99	0.284	88.90	0.4	15.889	C
C-AB	478.12	958.84	0.499	475.46	1.7	7.487	A
C-A	286.91			286.91			
A-B	72.82			72.82			
A-C	193.28			193.28			

### Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	257.64	570.65	0.451	256.50	0.8	11.417	B
B-A	109.44	272.20	0.402	108.40	0.6	21.835	C
C-AB	727.66	1040.80	0.699	718.84	3.9	11.318	B
C-A	209.31			209.31			
A-B	89.18			89.18			
A-C	236.72			236.72			

### Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	257.64	568.93	0.453	257.59	0.8	11.559	B
B-A	109.44	270.67	0.404	109.38	0.7	22.298	C
C-AB	735.30	1045.24	0.703	734.52	4.1	12.039	B
C-A	201.67			201.67			
A-B	89.18			89.18			
A-C	236.72			236.72			

### Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	210.36	606.63	0.347	211.47	0.5	9.137	A
B-A	89.36	313.06	0.285	90.38	0.4	16.239	C
C-AB	485.03	964.90	0.503	494.09	1.8	7.889	A
C-A	280.01			280.01			
A-B	72.82			72.82			
A-C	193.28			193.28			

### Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	176.17	628.79	0.280	176.75	0.4	7.975	A
B-A	74.83	343.38	0.218	75.33	0.3	13.457	B
C-AB	344.98	902.62	0.382	347.95	1.0	6.564	A

<b>C-A</b>	295.70			295.70			
<b>A-B</b>	60.98			60.98			
<b>A-C</b>	161.86			161.86			

<h1>Junctions 9</h1>
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Filename: Sir Michael Street Junction.j9  
 Path: C:\Users\jordan.dunn\Desktop  
 Report generation date: 25/08/2017 15:30:59

## Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	<u>Observed</u>							
	Proposed							
Stream B-C					1.6	16.39	0.62	C
Stream B-A					0.8	22.39	0.46	C
Stream C-AB					1.3	6.89	0.43	A
Stream C-A								
Stream A-B								
Stream A-C								

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

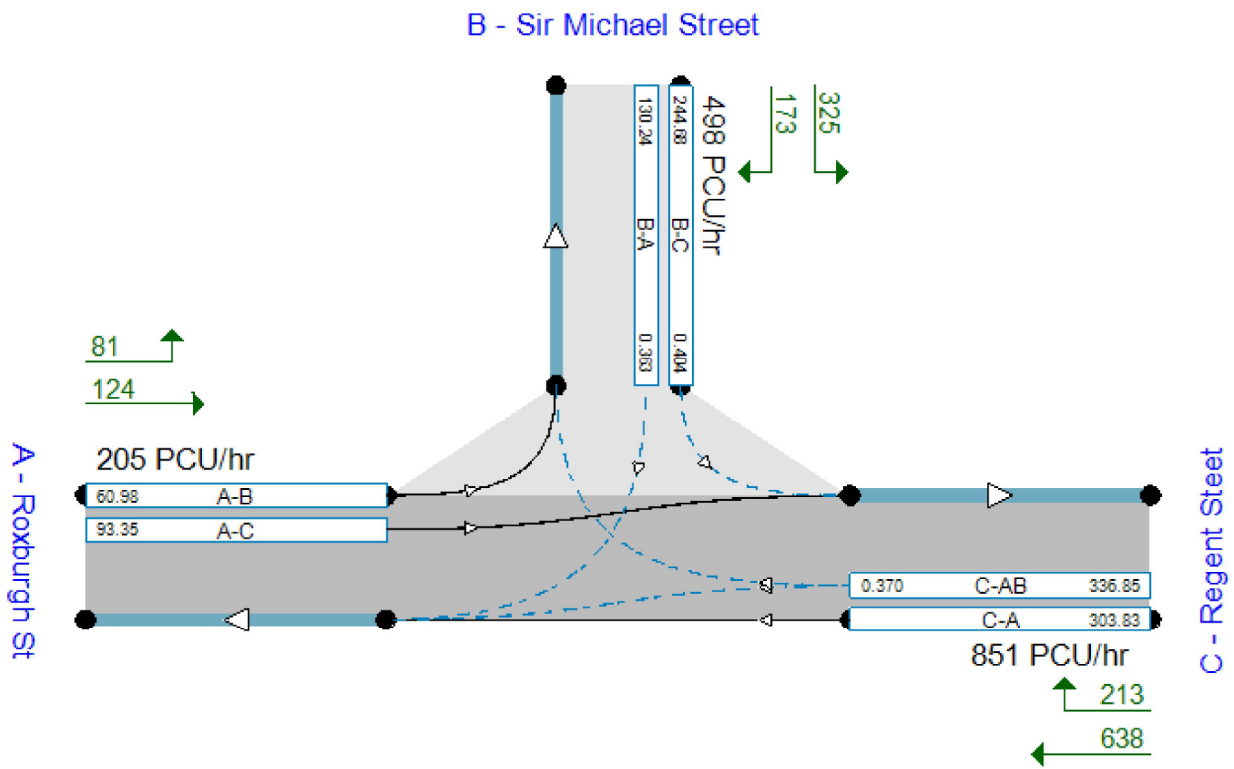
## File summary

### File Description

Title	PM Proposed
Location	Sir Michael Street Greenock
Site number	
Date	17/05/2017
Version	2
Status	Proposed
Identifier	
Client	Inverclyde Council
Jobnumber	A103631
Enumerator	WYG*george.ridley
Description	PM Proposed

## Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Showing original traffic demand (PCU/hr).  
Streams (upstreams) show Total Demand (PCU/hr); Streams (downstreams) show RFC (%)

The junction diagram reflects the last run of Junctions.

### Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

### Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

### Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Model start time (HH:mm)	Model finish time (HH:mm)	Time segment length (min)
D6	Proposed	PM	PM Observed	ONE HOUR	16:30	18:00	15



# Proposed , PM

## Data Errors and Warnings

*No errors or warnings*

# Junction Network

## Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1 - Roxburgh / Sir Michael St	Roxburgh / Sir Michael St	T-Junction	Two-way	16.05	C

## Junction Network Options

Driving side	Lighting
Left	Normal/unknown

# Arms

## Arms

Arm	Name	Description	Arm type
A	Roxburgh St		Major
B	Sir Michael Street		Minor
C	Regent Steet		Major

## Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Regent Steet	9.00			80.0	✓	0.00

*Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.*

## Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Sir Michael Street	One lane plus flare	10.00	6.00	4.40	4.00	4.00		2.00	28	28

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	493.957	0.078	0.198	0.124	0.282
1	B-C	701.238	0.093	0.236	-	-
1	C-B	620.292	0.209	0.209	-	-

*The slopes and intercepts shown above do NOT include any corrections or adjustments.*

*Streams may be combined, in which case capacity will be adjusted.*

*Values are shown for the first time segment only; they may differ for subsequent time segments.*

# Results

## Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-C	0.76	30.92	2.9	D
B-A	0.74	51.44	2.5	F
C-AB	0.68	10.84	3.6	B
C-A				
A-B				
A-C				

## Main Results for each time segment

### Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	244.68	605.21	0.404	242.01	0.7	9.842	A
B-A	130.24	358.73	0.363	128.02	0.6	15.463	C
C-AB	336.85	910.24	0.370	333.08	0.9	6.228	A
C-A	303.83			303.83			
A-B	60.98			60.98			
A-C	93.35			93.35			

### Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	292.17	567.98	0.514	290.71	1.0	12.913	B
B-A	155.52	324.02	0.480	154.20	0.9	21.028	C
C-AB	469.57	970.40	0.484	467.16	1.5	7.190	A
C-A	295.46			295.46			
A-B	72.82			72.82			
A-C	111.47			111.47			

### Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	357.83	482.98	0.741	351.65	2.6	26.259	D
B-A	190.48	262.39	0.726	184.98	2.3	43.728	E
C-AB	704.12	1051.68	0.670	696.83	3.4	10.252	B
C-A	232.85			232.85			
A-B	89.18			89.18			
A-C	136.53			136.53			

### Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	357.83	470.52	0.761	356.48	2.9	30.923	D
B-A	190.48	257.15	0.741	189.33	2.5	51.438	F
C-AB	715.40	1056.92	0.677	714.67	3.6	10.841	B
C-A	221.57			221.57			
A-B	89.18			89.18			
A-C	136.53			136.53			

### Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	292.17	558.13	0.523	299.29	1.1	14.264	B
B-A	155.52	320.05	0.486	161.75	1.0	23.543	C
C-AB	475.32	975.46	0.487	482.89	1.7	7.499	A
C-A	289.71			289.71			
A-B	72.82			72.82			
A-C	111.47			111.47			

### Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-C	244.68	601.67	0.407	246.41	0.7	10.184	B
B-A	130.24	357.16	0.365	131.84	0.6	16.088	C
C-AB	340.27	912.86	0.373	342.93	1.0	6.381	A

<b>C-A</b>	300.41			300.41			
<b>A-B</b>	60.98			60.98			
<b>A-C</b>	93.35			93.35			