

CHI/16/089 ROADS HIERARCHY

APPENDIX 1 – SUMMARY OF ASSESSMENT METHODOLOGY AND OUTCOMES

1. INTRODUCTION

1.1 This STAG (Scottish Transport Appraisal Guidance) based study has been undertaken to identify how the Aberdeen City and Aberdeenshire local transport networks should operate in the post-Aberdeen Western Peripheral Route (AWPR) scenario. From studies undertaken in 2008 relating to locking in the benefits of the AWPR, the following reductions in daily traffic had been predicted:-

• A90 North of Murcar Roundabout	18%
• A90 Midway along Parkway	25%
• A956 at Bridge of Don	16%
• A947 at North end of Dyce	12%
• A96 at Tyrebagger (West of AWPR)	9%
• A90 North Anderson Drive	17%
• A944 Kingswells (East of AWPR)	1%
• A90 Anderson Drive	20%
• A956 Market Street	10%
• A93 Milltimber (East of AWPR)	25%
• A90 at Bridge of Dee	15%

1.2 Note that the above predictions need to be reviewed in terms of recent studies being carried out in the city centre and other parts of the city. These studies are still ongoing but initial outcomes suggest that traffic in the City Centre is predicted to increase by 5 - 8% over 2012 levels by 2023, even with the AWPR in place. This is due to an intensification of development beyond that originally assessed as part of the AWPR scheme. Therefore, the effects of the AWPR are being reviewed as part of the ongoing City Centre Masterplan (CCMP) work and any updated predictions will need to be considered as part of this ongoing study.

1.3 The following high level STAG assessment is set out as follows:

- problems/ opportunities
- aims/ objectives
- development of options that might address/ take advantage of the above (optioneering)
- appraisal
- conclusion

- 1.4 This assessment was undertaken collaboratively by transportation officers of Aberdeen City and Aberdeenshire Councils together with colleagues from NESTRANS, the Regional Transport Partnership.

2 PROBLEMS AND OPPORTUNITIES

- 2.1 The most significant problem post AWPR is that the City's road network is prioritised and signed in relation to the current trunk road network i.e. A90 Anderson Drive/ Parkway, and this will no longer be appropriate when the AWPR is open. Much of our existing infrastructure is based on the existing trunk road and many of the junctions favour north/south routing rather than in and out from the AWPR.
- 2.2 The opportunity is that with the construction of the new trunk road – the AWPR – further west, the City's road network can be reprioritised to not only lock in the benefits created by this new infrastructure, but also to manage traffic in a new way to meet the changing needs of the City as defined in the Local Development Plan, Local Transport Strategy (LTS) and City Centre Masterplan.

3 AIMS AND OBJECTIVES

- 3.1 The LTS has a range of outcomes for transport across the City, and this was recently refreshed and agreed by this Council in January 2016. Consideration of the LTS outcomes, and the problems and opportunities defined above, informed the development of a range of project specific, Transport Planning Objectives. The STAG process itself requires specific criteria to be considered within the assessment methodology. It is important to note when assessing options against the following, that scoring was undertaken on the basis of impacts on the whole city, not just the city centre. The following therefore forms the criteria for assessment of options:-

Transport Planning Objectives

1. Create a city centre that is conducive to walking and cycling
2. Reduce bus journey times to make them competitive with car journey times
3. Improve reliability to make public transport more attractive
4. Ensure effective and efficient movement of goods to city centre and harbour
5. Facilitate removal of air quality management areas
6. Ensure effective use of post-AWPR transport network and maximise the benefits by "locking in" the additional capacity created by committed road schemes, towards sustainable transport modes
7. Support implementation of the city centre masterplan

8. Reduce the number and severity of transport casualties in the city centre
9. Increase modal share for public transport and active travel

STAG Criteria

1. Environment – cleaner, greener
2. Safety – safer and more secure
3. Economy – enable the efficient movement of people and goods
4. Integration – promote health and sustainability
5. Accessibility – enable social inclusion

4 OPTION DEVELOPMENT AND ASSESSMENT

4.1 Consideration of the City Centre Masterplan and Local Transport Strategy informed a range of possible options which were subsequently refined and are shown in Table 1 as options 1 to 6. Note that there are potentially hundreds of variations of these 6 options, and these have been sifted out as to their practicality, deliverability, and affordability leaving the 6 identified.

4.2 The assessment of these options against the criteria revealed that no single option best met these objectives, while elements of some of the options did indicate merit and further consideration. This outcome informed the development of a range of 'hybrid options', taking the better elements from options 1 to 6, to form four new options – 7 to 10, also defined in Table 1 and these were also subject to the same level of assessment.

Table 1: Description of Options

Option	Description
1) BASELINE - Do Minimum	Committed Schemes including AWPR, Third Don Crossing, Berryden Corridor Improvement, Airport Link Road / Park and Choose site at Dyce, Haudagain Improvement (Transport Scotland), South College Street Improvement.
2) CCMP / SUMP + Inner Relief Road (IRR)	Improvements for the benefit of pedestrians, cyclists and buses, including restriction of car movements + signing and traffic management measures to direct drivers round IRR to nearest junction to city centre destination / car park. Bus priority along Union Street (King St to Crown St), King Street south, Broad Street, Market Street North, Bridge Street. Pedestrian priority on Schoolhill, Justice Mill Lane, Rose Street, George St. Removal of Commerce St/ West North St roundabout, cyclist route on Beach Boulevard and Crown Street.

<p>3) Sustainable Transport Max + City Centre Demand Management</p>	<p>Priorities altered on radial routes crossing the de-trunked A90, to support buses and cyclists :- Bus priority linking Park & Choose sites length of Union Street, King Street, Wellington Road, Langstracht, Great Northern Road, Bedford, Berryden Guild Street, Market Street North, Broad Street, Bridge Street, Union Terrace, Part of Schoolhill, Blackfriars Street, St Andrews St. Cycle improvements with localised bus improvements on Great Western Road, Holburn Street, Queens Road/ Carden Place, Anderson Drive, South College Street, George Street, Gallowgate. De-trunked A90 Anderson Drive / Parkway / Ellon Road, supported by signing strategy, to reduce cross-city centre trips, especially by HGVs.</p>
<p>4) Vehicle Max</p>	<p>Outer Relief Road + Radial Routes widened to increase capacity for general traffic +, optimising flows by linking traffic lights, removing on-street car parking, and reinstating prohibited turning movements.</p>
<p>5) Two Zone System</p>	<p>Segregation of city centre into north and south zones, by banning specified turns for general traffic + Improvements for the benefit of pedestrians, cyclists and buses, including restriction of car movements. Use south side of Beach Boulevard, Union Street, Albyn Place, Queens Road to Anderson Drive to create a traffic management divide between north and south with exception of Denburn and Trinity Centre car park belonging to North of City. Public Transport allowed through, other vehicles not. All vehicles from north must park in north car parks, all vehicles from south must park in south car parks. To park in different car park, must use Anderson Drive or AWPR.</p>
<p>6) Three Zone System</p>	<p>Segregation of city centre into north, west and south zones, by banning specified turns for general traffic. Improvements for the benefit of pedestrians, cyclists and buses, including restriction of car movements. South side would enter from Wellington Road and Victoria Bridge along Market Street and would get no further north than Commerce Street. Access only to Union Square and NCP car park. West side would be bounded by Riverside Drive, South College Street, Bridge Street, Union Terrace, part of Schoolhill, Harriet Street, Crooked Lane, Blackfriars Street, west side of Berryden, north side of Westburn Road with car park access to South College Street car park, Harriet St car park, Denburn and Chapel Street. North of the City would be bounded by Berryden, north of Westburn Road and in the south Union Street, Justice Street and the Beach Boulevard. Car park access would be to Trinity Centre along Denburn, Loch Street, Frederick Street, Gallowgate and West North Street.</p>

7) Hybrid of Options 2 and 3	Public transport and cycling improvements to all radials, localised bus improvements where full scale bus improvements not possible. CCMP/ SUMP proposals for pedestrian, bus and cycle priority in City Centre, banned right turns for general traffic. Excludes Inner Relief Road from Framework Option 2.
8) Hybrid of Options 2 and 6	Creation of 3 zone system with demand management restrictions between zones for all vehicles except buses. CCMP/ SUMP proposals for City Centre, including ped/ cycle/ bus priority improvements. Excludes Inner Relief Road from Framework Option 2.
9) Hybrid of Options 3 and 6	Creation of 3 zone system with demand management restrictions between zones for all vehicles except buses. Public transport and cycling improvements to all radials, localised bus improvements where full scale bus improvements not possible.
10) Hybrid of Options 2, 3 and 6	Creation of 3 zones with demand management restriction for vehicles between them. Public transport and cycling corridors will penetrate each of the zones while CCMP/ SUMP proposals for ped/cycling and public transport will remain in the city centre. Excludes Inner Relief Road from Framework Option 2.

5 OUTCOMES

- 5.1 Options 1, 2 and 4 were the least favourable in terms of meeting the transport planning objectives and STAG criteria. Option 1 is a benchmark scenario, against which positive improvements can be measured; Option 2 would still allow cross-city centre movements by general traffic, albeit intercepting radial journeys and diverting them round the inner relief road to their destinations; and Option 4 is pro all vehicle movements and would have a negative impact on pedestrians, cyclists and bus users, in conflict with the objective of the CCMP and LTS to make the city centre a nicer and safer place for people to move around.
- 5.2 Option 5 – a 2-zone system – would be less effective in terms of meeting the transport planning objectives and STAG criteria than a 3-zone system. This is because there are more environmental benefits to be obtained in separating the city centre into 3 zones instead of 2, which would not be as effective in directing vehicles to their destination.
- 5.3 Options 3 and 6 were more effective than the above in terms of meeting the transport planning objectives and STAG criteria, so Option 6 – a 3-zone system – was taken forward into hybrid options 9 and 10.

Option 3 had constituent elements which were taken into hybrid options 7, 9 and 10.

- 5.4 Whilst hybrid options 7, 8 and 9 were moderately effective, the most effective hybrid option in terms of meeting the transport planning objectives and STAG criteria was option 10 – a combination of a 3-zone system in the city centre, with public transport and cycling corridors penetrating each of the zones, and CCMP proposals to improve facilities for pedestrians, cyclists and bus users in the city centre.
- 5.5 The overall conclusion from this high level assessment is that option 10 best meets the objectives set out earlier. Option 10 would therefore be the most likely approach to re-define the current roads hierarchy post AWPR which would successfully support the delivery of the CCMP, LTS, Local Development Plan and would also complement the strategy for the AWPR junction signing strategy, as outlined in the next Appendix.
- 5.6 Option 10, like many other options, would require a range of traffic management changes to facilitate its implementation, including but not restricted to:
- Pedestrian improvements – footways, paths, crossings, wayfinding
 - Cycle ways, advanced stop lines at junctions and parking measures
 - Bus priority, real time information, kerbside shelters
 - Lower speed limits and traffic calming in residential areas
 - Local roads signing aligned to AWPR signing and 3-zone system
 - Car park access strategy for the city centre
 - Roundabouts changed to signalised junctions
 - Junction improvements including reprioritisation along radial routes
 - Prohibition of traffic movements at key junctions
 - Re-classification of some roads.