CENTRAL SCOTLAND TRANSPORT CORRIDOR STUDY : COMMENTS ON INTERVENTION OPTIONS & RELATED ISSUES

TRANS*form* Scotland, January, 2002

INTRODUCTION

These comments arise from Working Papers received in December but should be read in conjunction with previous submissions by TRANS*form* Scotland as a member of the CSTCS Steering Group. These submissions were:-

- Forecasting of Movement and Modal Share (September 2001)
- CSTCS : Suggested Interventions for Evaluation (November, 2001)
- CSTCS : Comments on Working Papers – Economic Baseline, Demand Management, M74, A8 and A80 Corridor Constraints and Opportunities (December, 2001)

After general comments, specific comments are made on the December Working Papers and the presentations at the last Steering Group meeting. The general comments are made in four categories:-

1) Issues relating to Global and Local Environment
1) Policy Objectives and Pricing/Regulatory Structures
1) Forecasting of Movement and Modal Share
1) Delivering 'Best Value'

GENERAL COMMENTS : Interventions and Targets affecting all Corridors (to be read with TRANS*form* Scotland papers listed above)

1.1 Climate Change The Scottish Executive has still to state a range of indicative targets for:-

- cuts in greenhouse gas emissions from transport and other economic sectors in the Scottish Central Belt by 2011 and 2021
- expected extent to which such targets are likely to be met by measures other than road traffic reduction e.g. alternative fuels, greater energy efficiency (including shifts to lighter vehicles)

TRANS*form* Scotland's preferred objective continues to be a 33% cut on 2001 greenhouse gas emissions by 2021. Such cuts are unlikely to be achieved unless they incorporate Scottish Executive targets for overall road traffic reduction.

1.2 Local Air Quality The Scottish Executive should make clear the standards of local air quality expected by 2011 and 2021 and the extent to which these may require localised traffic reduction (in addition to overall Scottish targets) as well as shifts to cleaner engines.

1.3 Congestion, Reliability and Environmental Capacity
The Scottish Executive should state targets to which final CSTCS recommendations should conform. Specific targets are required for cuts in congestion, improved reliability and for the environmental capacity of roads and streets. It is gratifying that the latest Working Papers refer to 'comfortable' or 'environmental' capacity but specific targets have not yet been set.

Such targets are a crucial part of Study guidance from the Executive. Though it is accepted that some targets will vary with local circumstances and the character of particular routes and modes. Targets should include both shorter-term (with 5 years) and longer-term timescales with systematic monitoring. Responses are invited to the following suggestions for targets to be delivered within 5 to 10 years:-

Congestion For at least 95% of trips, peak travel times should not be more than 33% longer (for buses, lorries and HOVs) and 50% longer (for single occupant cars) than at inter-peak times (it is thought that most present congestion falls within these targets but delays are likely to rise over the next 5 years unless remedial actions are applied. Progress information should be published each year)

Lorry and Car Reliability On 95% of both peak and off-peak trips by lorry and car, times should not vary by more than 20% from expected averages e.g. a time of 20 minutes should be in range of 16 to 24 minutes for 95% of trips ; 30 minute trips would vary between 24 and 36 minutes on 95% of trips (arrangements for advance notice of major roadworks and available alternatives should be improved).
Higher reliability standards should be set for bus travel and for rail – around 98% of scheduled services and capacity actually operated and with 95% of bus services and 99% of rail services arriving no more than 3 to 10 minutes later than scheduled times (acceptable delay being set higher on longer-distance routes). Performance could be monitored by sample surveys with financial penalties for falling below set standards.

Environmental capacity This involves setting maximum levels for acceptable volumes of road traffic allowing improvements in the local environment, air quality, noise levels, safety and community contacts. The key specifications should include speed as well as vehicle volumes because of links to road safety and noise levels. The concept has been under consideration for several years by both planners and road engineers but there is need to convert it into specified standards. This process could be started in the imminent ***Scottish Transport Delivery Report***. Targets suggested for environmental capacity are:-

- **70 mph** on 'rural' grade separated dual carriageways or motorways with no houses within 100 m and 7 am to 7 pm flows not above **40,000 to 100,000 vehicles** (depending on road width) (lower speed limits should apply on urban motorways and on other sections of motorway with heavy traffic)

- **50 or 60 mph** on other sections of mainly grade-separated route with no housing having a building line within 30 metres of operational route and with 7 am to 7 pm flows not exceeding **20,000 to 40,000 vehicles** (depending on road width and character)

- **30 to 40 mph** on urban distributor routes with pavements (including a cycle track) at least 3 metres wide where housing or other development directly abuts the pavement and with 7 am to 7 pm flows not exceeding **12,000 to 20,000 vehicles** (depending on road width and character)

- **10 to 20 mph** on other urban roads with substantial frontage development and with 7am to 7 pm flows not exceeding **1000 to 6000** vehicles (depending on road width and character e.g. Home Zones would have 10 mph speed limits with streets redesigned to incorporate pavements but with absolute priority for adult pedestrians and children)

- additional regulations affecting **HGV routes, speeds & night operation** (also applying to rail freight and aircraft movement in certain instances)

2 Policy Objectives and Pricing/Regulatory Structures

This is a major area of TRANS*form* Scotland interest. Given the political will, substantial changes in transport pricing and fare structures are deliverable within five years and would advance STAG (Scottish Transport Appraisal Guidance) objectives – including ***social inclusion*** and ***sustainable development***.

2.1 Pricing Reforms Options under study should include a clear commitment to pricing reform within five years, incorporating the key features of:-

- earmarked additional income available for purposes related to STAG

- additional income from combinations of direct road pricing in the west of Scotland and higher fuel duties across the Central Belt (as already envisaged in the previous understanding between Gordon Brown and Jack McConnell prior to the 2000 Budget – which, in the end result, did not produce any earmarked income since the real level of Fuel Duty was reduced)

- a re-structure of pricing to increase payments by road users at the time and place of road use, reflecting external and congestion costs while transforming fare levels and structures to a multi-modal, zonal basis making most fares no higher than the marginal costs of car use

. positive incentives for Green Travel Plans encouraging shifts to walking, cycling, public transport and car-sharing (few present plans are in place and tend to rely on voluntary action while retaining extensive use of free parking for car users).

2.2 Social Inclusion It is surprising that no CSTCS Working Papers have yet dealt with social inclusion and accessibility issues. This needs to be remedied. To date, CSTCS has concentrated on options encouraging shifts away from car use on busy corridors yet consideration of social inclusion aims at an early stage in option selection can increase the focus on:-

a) schemes offering joint benefits in terms of social inclusion and shifts away from car use
a) specific schemes to aid those specially disadvantaged in terms of accessibility compared to those with car access.

Improved public transport services can help to improve access to a wider range of work, shopping and other opportunities for those lacking direct car access as well as encouraging some shifts from car use and a slower rise in car ownership (with scope for reducing the number of 2 car plus households and narrowing the present 'access' gap between those with and without easy access to cars).

Since walking is a very important mode of access to and from public transport, walking (and cycling) strategies offer valuable benefits for ***social inclusion*** and ***health*** aspects as well as the separable benefits of health benefits for households with cars through decisions to make less use of cars***.*** ***Pricing reforms*** and ***safety measures*** also benefit the socially excluded as well as encouraging shifts from car use (see *A New Route? Views on Local Bus Services in Scotland*, Scottish Consumer Council, January 2002).

2.3 Regulatory Measures

TRANS*form* Scotland wishes to place added emphasis on the need for the Final Report to include recommendations favouring the **early reform of Bus Fuel Duty rebate** to accelerate (1) fully integrated ticketing, (2) improved information and (3) the expansion of Demand Responsive Transport in suitable areas and to and from selected, high-quality interchanges. It is accepted that the desired rate of expansion in bus use and closer links with land use strategy are likely to require specific plans for Quality Corridors, Quality Partnerships and Quality Contracts.

2.4 Land-Use Regulation

MVA considers it easier to regulate housing than business location with a wide range of business zoning making it hard to apply priorities reducing the need for travel and encouraging walk, cycle and public transport modes. This view has been disputed on the basis that it may be easier to influence business than housing location yet there are concerns that the GCV Structure Plan may lack sufficient backing from the Scottish Executive to deliver priorities for integrated, sustainable and inclusive transport.

The Scottish Executive should clarify policy in this area with the objective of ensuring a concentration on preferred areas (including ***quality interchange*** and ***Transport Development Areas*** around hubs) and corridors of development.

TRANS*form* Scotland supports the view that there should be strict scrutiny of major development, both near and further removed from key interchanges, to ensure effective conditions raising modal share by public transport, walking, cycling and car-sharing. There is also scope for more active use of fiscal policy in encouraging appropriate locational choice and urban regeneration e g, – fiscal relief for areas of deprivation represent a move in this direction which could be expanded.

More awareness should be shown of defects in the land market distorting location decisions e.g. developers do not bear the full costs arising from the development of unsuitable greenfield sites or other sites generating significant additions to car movement. Planning conditions for specific development should be used to specify modal shift targets and ensure actions to achieve such targets.

There is particular concern that the extent of recent applications for Clyde Waterfront development may aggravate transport problems and distort investment away from optimum patterns of sustainable development. Some development may only come to the west of Scotland if able to locate on the Waterfront but there is a risk that rapid will worsen congestion west from the Kingston Bridge (e.g. on the western M8 and Clydeside Expressway) and detract from development at other priority sites such as the city centre, Glasgow's east end and Ravenscraig.

It is recommended that Waterfront developments west of the Kingston Bridge should take place on a phased basis delaying most development until

a) **a transport strategy achieving modal shift away from cars has been approved and substantially implemented**
a) **agreement had been reached on the phasing and location of Clyde Waterfront flood protection works – possibly a tidal barrage at Erskine**

3 Forecasts of Movement and Modal Share

3.1 Total Movement and Modal Share

TRANS*form* Scotland continues to take the view that the methodological approach of the Study exaggerates demand for car use and understates public transport demand and needs. Actual growth in car use has been less than previous forecasts and insufficient allowance appears to have been made for changing attitudes to movement. Longer distance car and lorry use is already stabilising or falling as alternatives improve, load factors rise and other forms of household and business spending become more attractive. With current policies reflecting the need for a sustainable, inclusive and competitive economy, these pressures are also likely to affect the nature of shorter distance movement within urban forms more suited to public transport, walking and cycling. Central Scotland is also likely to have less population growth than in England and economic growth decoupled from

increases in car use over the next 20 years (Data in ***Scottish Transport Statistics, 2001***, has already shons that – despite a rise in the number of motor vehicles, overall road vehicle miles in Scotland have remained stable since 1995).

TRANS*form* Scotland welcomes revised conclusions that car and lorry growth in west central Scotland over the next five years will be substantially less than initial model forecasts made in 2001. This revision has been influenced by lower expectations of economic growth but TRANS*form* Scotland would suggest that it has also been influenced by fundamental and continuing shifts in patterns of movement away from high levels of car-based modal share.

Measured as passenger miles and tonne miles, TRANS*form* Scotland considers that delivery of integrated, sustainable and inclusive transport will involve **a rise in total movement in west central Scotland of no more than 10% over the next 20 years.** Given the increasing evidence of a decoupling of road vehicle miles from economic growth, this much reduced rate of growth is seen as a positive aid to both the economy and social inclusion. On the basis (supported by recent trends) that most of this growth will be in public transport, walking, cycling, car sharing and improved load factors, there are now prospects for absolute cuts in road vehicle miles. Such cuts are also needed to meet targets for greenhouse gas reduction. **The current TRANS*form* Scotland view is that there is a strong case for a Scottish Executive target of a 10% absolute cut in 2000 road vehicle miles by 2011** with the prospect of further cuts by 2021. Appropriate targets for West Central Scotland need further consideration but, in view of expected stability or slight fall in total population (including an end to population decline in Glasgow), a west of Scotland target is likely to be close to an overall Scottish target.

3.2 Distribution of Movement Earlier Working Papers gave rise to some confusion between overall levels of movement in particular zones of the west of Scotland and movement on particular corridors. There was potential conflict between Steer Davies Gleave studies (still unpublished) into movement growth by region in Scotland and earlier CSTCS views on possible road traffic growth on the A8, A80 and M74 corridors. While Steer Davies Gleave suggested road traffic growth of up to 24% in the west of Scotland over 20 years, CSTCS found possible growth of 40% to 70% on particular sections of strategic road.

These differences can be reconciled by the argument that the trend to longer-distance trips and the continued time-saving attraction of dual carriageways and motorways (compared to alternatives) attracts higher proportions of movement to such routes. In addition, many land use changes have favoured development with easy access to major routes.

What is still missing, however, is:-

- detailed information on car-based passenger miles by area and route (there are signs of stabilisation and potential decline in longer-distance car commuting, especially in single occupant cars)
- information on public transport passenger miles by area and route with splits between bus and rail and projections to 2021
- similar data for tonne miles by road and rail
- adjustment of projections in the light of changing consumer attitudes and delivery of integrated, sustainable and inclusive transport.

There should be further consultation on revisions of movement forecasts and the selection of targets in the light of these circumstances. As argued above, this could involve cuts of more than 10% in road vehicle miles by 2021 compared to the Steer Davies Gleave estimate of a 24% rise by 2020/21. Unlike vehicle miles by car, absolute growth is likely in public transport, walking and cycling (reflecting social inclusion policies as well as modal shifts from car use). The Study should be seen to address these issues**. In delivering the aims of integrated, sustainable and inclusive transport, TRANS*form* Scotland anticipates increases over the next 20 years of at least 25% for walking, 60% for buses (including Demand Responsive Transport), 200% for rail (including light rail) and 250% for cycling.**

Within these west of Scotland estimates for movement and modal share, there will be variations for sub-areas which should be assessed as part of the Study e.g higher movement in and around Clyde Waterfront and Ravenscraig is likely but with greater emphasis on sustainable modes; an increase in shorter trips within Glasgow is likely to be accompanied by a fall in single occupant car-commuting (especially over longer distances).

With respect to the strategic and distributor road network, it is accepted that there may be road traffic increases on certain sections of route even if overall road traffic in west central Scotland falls or stabilises. As CSTCS states, limited improvements in the strategic and distributor road network should be designed to minimise overall road traffic generation while attracting traffic from existing roads where levels exceed environmental capacity. **CSTCS has accepted that any new road capacity attracting traffic must be accompanied by measures to prevent re-growth of traffic on roads relieved**. Nevertheless, since expectations of traffic growth have been reduced, the capacity required on 'relief roads' is now more modest than that envisaged even two years ago. This, of course, raises the important issue of the appropriate scale and nature of road improvements on **the urban M74 corridor** and their relative priority compared to measures to encourage walking, cycling and public transport.

3 Delivering 'Best Value' from CSTCS

3.1 In the limited time remaining until the Final Report in April/May 2002, **it is important to have a focus on how to achieve 'best value' from the Study**. TRANS*form* Scotland would urge acceptance of the reality that the Study Report will NOT be a comprehensive review of transport and environmental options across the Scottish Central Belt. These issues are being covered in other studies. However, the Study has been addressing issues allowing greater progress to be made on immediate problems relating to West Central Scotland and to the A8/M8, A80/M80 and urban M74 corridors in this area. While the Study has rightly included data and assessments relating to movement beyond West Central Scotland (notably to West Lothian and Edinburgh/south Fife and north from Perth), it has shown that a very substantial majority of trips remain within a 20 mile zone radiating from Baillieston. It is in this zone (including the M8 and Clyde Waterfront west from the Kingston Bridge) that the Study is capable of providing significant inputs which can advance Scottish Executive and WESTRANS delivery plans within finances likely to be available over the next 5 years and the years to 2011. These inputs will include thorough reassessments of prospects for movement growth, modal share and social inclusion in relation to Scottish Executive guidelines e.g. on congestion reduction, improved reliability, environmental capacity, greenhouse gas reductions, local air quality, road safety and equitable access.

4.2 The 'best value' outputs from the Study should be:-

a) a review of movement forecasts, modal share and corridor flows for West Central Scotland under Scottish Executive guidelines and for the periods to 2006, 2011 and 2021 (helping to confirm the 'deliverability' of targets for road traffic reduction)
a) specific proposals for priority items in delivering integrated, sustainable and inclusive transport in West Central Scotland for 2002-2006
a) selection of priorities, as a basis for further consultation, for the following 5 to 15 years (including comment on extent to which initial priorities to 2006 are likely to be compatible with subsequent activity e.g an on-line up-grade of the A80 north from Mollinsburn to full motorway status has implications for the design and location of interim improvements to 2006)

4.3 In moving to such outputs, there is need to narrow the range of physical intervention options to be evaluated while also being clear on fiscal, pricing and regulatory reforms (including land use policies). TRANS*form* Scotland takes the view that – for a variety of financial, planning and institutional reasons – major infrastructure works will be limited over the next five years. Even with road user charging in the west of Scotland (which TRANS*form* Scotland would urge as a high priority), significant infrastructure works aided by such charging takes time to deliver. **Early priorities should concentrate on smaller scale (but cost-effective) capital projects, including additional rail vehicles, and the use of funding for 'revenue**

spending' related to traffic calming, traffic management, enforcement, fares/pricing reform and contract or partnership based support for enhanced bus and rail frequencies and selective additional services (including Demand Responsive Transport).

4.4 The scope for major infrastructure projects will inevitably be more restricted in the absence of road user charging. The latter also has the added benefit of restricting demand at times where congestion is creating high external costs and costs to other road users. The Final Report should quantify these issues relating to financing and demand by comparing **outcomes to 2006** for Options with and without road user charging in West Central Scotland.

4.5 **Beyond 2006** and on the assumption **of an extending use of road user charging** (including trunk roads), total public funds available for transport and environmental purposes in the west of Scotland would rise. For this period, the Study should evaluate the possible benefits of shifts from revenue support to capital funding (either directly or through PPPs) within an agenda for sustainable, efficient and inclusive transport and access. This opens up prospects for cumulative investment in plans for rail, light rail, busways and interchange improvement. However, TRANS*form* Scotland considers it highly unlikely that new motorways could be justified in such an agenda**. It accepts that there is a case for up-grading the Baillieston-Newhouse A8 and the A80 north from Mollinsburn to motorway.** Some road construction may also be justified as part of programmes to ensure permanent and substantial traffic reductions on roads with extensive housing and shopping or through sensitive leisure zones.

4.6 Regarding the **urban M74 corridor** and the continuing westward corridor on the M8 and both sides of the Clyde**, it is not evident that the urban M74 as presently conceived provides the 'best buy' for meeting current and expected needs**. It takes up too high a proportion of available funding. Instead, as part of a sustainable area and corridor package, there should be evaluation of a dual carriageway with simplified junctions and surface or sub-surface alignment between Polmadie and Shields Road (keeping the route out of Tradeston/West St and removing the intrusive elevated sections in the present proposal). Such a proposal - as part of related measures affecting public transport, walking, cycling and roadspace reduction on existing roads- would meet STAG criteria more effectively than the current M74 proposal. Full completion may not be achieved until after 2010 but careful phasing could provide significant benefits in advance of this date. Funding (and traffic reduction) would be assisted by the early introduction of road user charging. None of the road schemes mentioned above would be acceptable to TRANS*form* Scotland except as part of a package in which at least 50% of capital funding for transport in west central Scotland was devoted to public transport, walking and cycling over the next 10 years.

SPECIFIC COMMENTS

5 Focus Group Reports

5.1 These reports contain some interesting material yet confirm the wide gap which can exist between perceptions and reality e.g. non-users of public transport tend to assume it is of poor quality rather than speak from actual experience; car users tend to assume that all road taxation should be available for road programmes and fail to appreciate the full costs arising from road use, especially in urban areas and on busy inter-urban corridors; 'captive' public transport users often consider public transport to be reasonably good and therefore understate the changes needed to make it attractive to car users (see also *A New Route? Views on Local Bus Services in Scotland*, Scottish Consumer Council, January, 2002). Expectations on quality of service are lower than in other parts of Europe. There are opportunities here for increasing awareness of the actual position e.g. advertising and other measures to encourage a shift from cars to public transport, reinforcing the travel awareness campaigns already being pursued by the Scottish Executive, operators and councils,.

5.2 It is urged that **the Study should endorse the important priority for reinforcing travel awareness campaigns with actual changes in pricing to cut fares relative to car costs at the time and place of use**. For informed discussion of transport issues, government needs to be willing to differentiate between 'tax' and 'charge' elements and to accelerate higher charges where present charges are clearly below costs arising (see SACTRA and Leeds University Report on *Surface Transport Costs and Charges*). There is a strong economic and social case for increasing the total 'charge' income from road vehicle movement in urbanised areas and on inter-urban corridors at times when present charges are well below costs arising, including external costs. At the same time, the Scottish Executive should ask the Treasury to evaluate the benefits of changing tax structures so that a larger element is paid at the time of use e.g. a transfer of vehicle excise to fuel duty; exploring means of incorporating most vehicle insurance payments in fuel duty (as advocated by the Royal Commission on Environmental Pollution as part of longer-term strategies in 1994).

5.3 Problems of perception also relate to perceptions of effective solutions though it is noticeable that several focus group members did refer to self-defeating proposals for extra road capacity which could generate further traffic. The **15 'solutions'** on which comments were invited may themselves have distorted comments while different replies might have come from transport operators and providers. The questions did not include a direct question on the level and structure of public transport fares relative to car use costs while an apparently cool response to road user charging may reflect a failure to present a choice between, on the one hand, no charging and low public spending on transport and, on the other, earmarked charges related to transport and environmental programmes.

5.4 The fact that the Airdrie-Bathgate rail link was placed first on the list of possible solutions may also have influenced the comparatively high rating attained by this link. Yet this is not a link on which MVA are suggesting higher-speed services nor could it be introduced as quickly as improvements on the Shotts line. With a range of express, intermediate and express services, the Shotts line is likely to attract usage at least four times greater than an Airdrie-Bathgate link and it is felt that the

Focus Groups have understated its importance. It would be worthwhile to explore views on priorities through Focus Group meetings with transport operators/providers and with specific interest groups. This would allow fuller comment than is possible at the existing consultation meetings.

5.5 Finally, it is felt that:-

- the Bellshill/Monklands focus of the A8 Focus Group prevented views from Motherwell/Wishaw/Carfin users of the A8 (and M74).
- the exclusion of public transport users from the western part of the M74 study (towards Renfrew, Paisley, Newton Mearns and Ayrshire) may have distorted results – no sense of wider Clyde Waterfront issues arose.

6 Environmental Interventions

6.1 Noise Levels and Local Air Quality It is suggested that, especially to give weight to social inclusion objectives, interventions should aim to reduce noise levels at properties near existing roads as well as new roads. The A8 report (2.2.1) states that elevated noise levels can affect properties up to 100 m from the A8 while new housing is at present being built within 50 m of the M8 (at Kirkshaws). There are also likely to be properties with elevated noise levels within 100 m of other roads though only partial information on this is given in Table 2.1 (A8) and Tables 2.1, 2.2 & 2.4(M74). Table 2.2 also confirms that substantial adverse environmental impacts for frontagers and pedestrians/cyclists arise when daily traffic flows exceed 20,000 per day. A fair policy should seek to reduce the worst cases of elevated noise levels in 5 years and ameliorate all examples within 10 years (including some where the source may be rail rather than road traffic). To establish effective policies, it is desirable to quantify the number of properties affected both with respect to the A8, A80 and other existing and proposed roads in the study area. Part of the solution is likely to lie in **lower speed limits, new road surfaces** and **traffic reduction.**

6.2 Planning policies may require modification to ensure that no housing is built within 100 m of major roads (nearer if speeds are restricted) or railways with substantial freight movement and/or frequent passenger trains exceeding 75 mph. The Study should also consider how traffic policies could be modified to bring traffic levels down to an appropriate environmental capacity (varying with road characteristics). The M74 report (2.2.32) expresses particular concern about the road traffic generation impacts (in the absence of remedial policies) of development proposals for **Glasgow Harbour/Finnieston** (on western M8/Clydeside Expressway and close to western end of proposed urban M74) and also at **Pollok** and **Auchinlea** (close to busy sections of the M77 and M8)

6.3 Global Air Quality This issue is mentioned at 2.2.9 (A8 & M74 reports) but the question of **targets** for cuts in greenhouse gas emissions in the transport sector is not addressed. This is a serious omission from the Study guidelines which requires to be rectified. Use of the term Global Air Quality is also misleading since it diverts attention from the specific implications for Scotland of **global climate change** – including a cumulative increase in major flood risks on the Clyde plain west of the Broomielaw.

6.4 Environmental Measures A comprehensive list of possible environmental measures (including charging and fiscal policy) is given but, in addition to regulations, there is no reference to whether the proceeds of road user charging

would be available for ameliorating the environmental impacts of transport. The concept of the **environmental capacity of roads and streets** should be added.

More specification of bus/rail and walk/cycle networks is required if they are to be used as a base for testing environmental as well as access and travel impacts. In the phasing of measures, it is urged that **road user charging** become an immediate priority rather than be placed in the long-term category.

7 Freight Interventions

7.1 It is accepted that there is more scope for shifts in longer-haul freight away from road use but it would be helpful to have greater quantification of:-

- present levels of road and rail traffic at particular points and a division of flows between long-haul and flows either 'local' (possibly under 60 miles) or access trips (under 60 miles) to rail terminals, ports and airports.
- the scope for future change away from HGV road use e.g is it less than 10% of lorry trips or could it be pushed up to the 20% to 30% over the next 20 years?
- the costs and benefits of achieving such an increased shift compared to measures to ease and ameliorate lorry movement e.g. junction redesign, lorry lanes or segregated routes, lower speed limits, route restrictions.
- van movement and the scope for shifts away from such movement (likely to be less than for HGVs though with opportunities to improve load factors and delivery systems).

7.2 Consideration should be given to the relative costs of lorry delays and unreliability compared to problems arising at distribution centres and other origins and destinations (research by Prof Alan McKinnon has suggested that the latter are more significant problems and offer more opportunities for improvement than on-road delays, STR, ISSUE 8 Winter 2000/01, p14)

7.3 It should be noted that there is now a firm decision to reduce rail freight track access charges from April, 2002.

7.4 With respect to the concern about WCML capacity for freight beyond 2010, reference should be made to the option of fuller utilisation (with enhanced clearances) of the route from Pollokshields (already having direct rail access from both Braehead and Rutherglen) via Barrhead, Kilmarnock and Dumfries to Gretna with onwards movement either by the Carlisle/Settle line or the coastal route to Carnforth. There may also be a case for a restricted level of rail freight on the Shields Rd/Pollokshields-Bellgrove link via the St Enoch Bridge

7.5 TRANS*form* Scotland supports increased rail freight from the Central Belt to Aberdeen and Inverness together with enhanced rail access to existing container and swapbody terminals from Ayrshire and between Braehead and Mossend. It is considered that significant rail freight paths are required on:-

- the route north from Mossend via Cumbernauld (with access to Gartcosh and to Fife by a reopened Stirling-Alloa-Dunfermline route)
- the Rutherglen-Whifflet line (avoiding Cambuslang)and associated Shotts route to the Edinburgh south side line/Millerhilll

- Glasgow-Paisley route (with Braehead Spur) – aided by restoring quadruple track in a joint project with passenger services
- Pollokshields, Barrhead and South route (in addition to some use of WCML – especially for premium. higher-speed freight)

7.6 TRANS*form* Scotland supports early priorities for junction redesign and safety margins to assist lorry flows and some use of bus/lorry priority lanes. There may be a case for special new routes for lorries and buses, mainly after 2006.

8 Corridor Interventions

8.1 A80/M80

8.1.1 Road Elements

Decisions on interim road improvements will be helped if post-2006 priorities are also established. TRANS*form* Scotland favours on-line improvement of the existing road north of Mollinsburn to two-lane motorway over the next ten years with evaluation of the following items for **completion by 2006**:-

- full width lane margins between Mollinsburn and Old Inns with these lanes available for peak bus and lorry use between Mollinsburn and Low Wood (with added emergency lay-bys at 300 metre intervals- as used in Italy)
- variable speed limits (ranging down from 50 mph) on A80 from Auchenkilns to Crowwood
- Mollinsburn/M73 junction re-design
- signalisation of Auchenkilns roundabout and assessment of extra benefits and costs of closing B8048
- A80 and M80 gantry signs to improve information and traffic management associated with effective enforcement of regulations
- closure of B816 junction at Castlecary
- bus priorities at present junctions (including Moodiesburn) and/or provision of short local road links from Moodiesburn to Chryston and from Muirhead to south side of Crowwood roundabout (creating an improved local route and bus corridor from Mollinsburn to Crowwood avoiding present A80)

8.1.2 Beyond 2006 : options for evaluation

- provide safety margin between Haggs and modified Old Inns junction with southbound climbing lane from Castlecary
- overpass for M80 through traffic at Auchenkilns roundabout and grade separation at Moodiesburn (possibly via underpass for A80 traffic)
- adjustments within Cumbernauld, including upgrade of present south-east perimeter road to give improved link with A73 (TRANS*form* Scotland considers that the suggested Southern Strategic Bypass does not merit evaluation)
- a busway or light rail link from Stepps/Hornshill to north Chryston with spur to Kirkintilloch (a northern bypass for Muirhead is unlikely to be justified)

8.1.3 Public Transport Elements to 2006

Bus changes as in November 2001 TRANS*form* Scotland submission but with:-

- greater specification of routes and frequencies on conventional services **(**with more services raised to a quarter-hourly frequency or better and a reorganisation of routes to give a choice of express services and improving 'stopping' services easing access to east Glasgow and between Kirkintilloch, Cumbernauld and the Monklands e.g some express buses would use the up-

graded A80 west from Mollinsburn but others – routed via Condorrat and via Westfield – could provide improved local services also continuing into Glasgow using the M80 from Crowwood but with revised exits to permit uninterrupted access to western Alexandra Parade and city centre.

- small schemes improving the quality of bus shelters, bus information and the
- quality of walking access to bus stops; enhanced cycling networks
- completion of new Cumbernauld Bus Station and up-grading/creation of other quality interchanges as part of quality bus corridors into Glasgow and from
- Kirkintilloch/Kilsyth to Cumbernauld/Monklands
- selection of initial areas for Demand Responsive Transport with quality interchange to and from conventional rail and bus routes

8.1.4 Beyond 2006, enhanced bus priorities and shorter trip times could be provided by the suggested link from Hornshill. Light rail options have also been mentioned for this area but better prospects for light rail may be on other routes.

8.1.5 Rail to 2006

TRANS*form* Scotland's preferences for evaluation are:-

- extra capacity by lengthening trains and (where necessary) platforms
- related improvement in walk/cycling/bus feeder access plus some expansion of park and ride
- extra capacity for corridor users by diverting part of Edinburgh-Falkirk-Glasgow through traffic to GlasgowCentral-Lanarkshire-Edinburgh routes
- new **Gartcosh** station and extension of all Glasgow-Cumbernauld trains to Falkirk Grahamston with additional station at **Bonnybridge** and EITHER an eastward relocation of Cumbernauld station (to link better with Abronhill bus routes and offer extra parking) OR new station at Abronhill (misspelt as Avonhill in some of the Working Papers). A potential problem with an Abronhill station (in a wooded valley) is that of providing walking access perceived as safe and convenient. There are also difficulties of road access and levels of usage for normal bus services. Local opinion on these issues should be investigated **(**these changes appear preferable to the suggested post-2006 park and ride/bus/rail interchange at Castlecary)

8.1.6 Beyond 2006 Suggestions made by MVA include:-

(1) longer platforms at Glasgow Queen St High Level
(2) a major interchange hub at Castlecary
(3) extra services from Glasgow to Croy or Castlecary (since flows from Glasgow to these points are expected to be higher than to points beyond)
(4) quadrupling tracking of all or part of the route from Glasgow to Croy
(5) introduction of light rail and shared running to give better penetration into Cumbernauld
(6) electrification from Springburn to Maryhill/Milngavie (releasing platform capacity at Queen St High Level) followed by general electrification
(7) extension of Glasgow-Whifflet trains to Cumbernauld (possibly involving electrification and re-use of the direct line between Bridgeton and Carmyle)
(8) extension of Motherwell-Cumbernauld trains to Stirling
(9) construction of Garngad curve and reopening of St Enoch Bridge line to permit services from north-east to divert via the Queen St Low Level line or St Enoch Bridge and give direct access to Glasgow Airport (a possible re-use of the former Buchanan St station approach tunnel is also mentioned but the southern access from this route is not clear).

8.1.7 It is difficult to comment on this list without becoming involved in wider issues of rail strategy, organisation, financing, urban regeneration and social inclusion. There is, in particular, a need to identify those lines with a primarily longer-distance and regional role (with some having greater requirements for freight 'slots') and potential urban and conurbation light rail and shared running networks catering primarily for trips of 10 miles and less. There are related issues of interchange location and integration with policies for other transport modes, regeneration and social inclusion. Such factors influence the following comments:-

(1) Not a realistic option due to high cost and need to develop through routes across the city rather than terminals

(2) Should be evaluated but may turn out to be unrealistic due to:-
- the high capital costs of a complex interchange at Castlecary
- additional conflicts between high-speed services and stopping services
- incentives for people to drive longish distances to park and ride rather than use stations closer to home
- a low rating in terms of social inclusion (improved bus services and stations or halts in walking distance offer direct benefits for social inclusion). TRANS*form* Scotland would suggest comparing this proposal with earlier opening of a station on the Falkirk/Stirling line in the **Bonnybridge** area, raising of **Glasgow-Stirling local train frequency to quarter-hourly** (extended on a respective half-hourly frequency to Dunblane and to Alloa) and the opening of a halt (with car parking) in the **Bannockburn** area of south Stirling

(3) The need for additional **Glasgow-Croy capacity** could be eased by busway developments between Glasgow and Cumbernauld, longer trains and acceptance of higher levels of standing on the short rail trips between Glasgow and Croy. See also comment on (4)

(4) This quadrupling would be very expensive. An alternative worth consideration (possibly in conjunction with 9) would be building of **a new and well-aligned rail link for the 4 miles between Robroyston (on the Stepps line) and the Croy line east of Lenzie** in conjunction with **Garngad and St Enoch links** (see 9). This could allow national and regional express services to operate from Inverness, Aberdeen, Edinburgh, etc direct to **Glasgo**w **Airport** via the St Enoch Bridge and Paisley (with interchange stations in Glasgow in the StEnoch/High St area and at West St (with links to south side lines, to the Circle Underground and to SECC and Pacific Quay plus car parking). In turn, such a proposal would facilitate more frequent rail services from Glasgow to Lenzie and Kirkintilloch/Campsie and to Croy with a possible light rail spur through Cumbernauld to Abronhill. This could be associated with alterations at **Croy station** to expand car parking and provide direct road access reducing traffic from Kilsyth to Croy station and Cumbernauld through Croy village.

(5) See latter part of comment on (4). This is seen as an additional and later priority to major bus priorities between Glasgow and Cumbernauld

(6) This would be likely to involve unacceptably long trip times from Milngavie to Glasgow and reduce the frequency of service between Milngavie and the important interchange at Partick. A possible alternative (which might be implemented by 2006) would be **to extend existing Springburn services through to Bishopbriggs and Lenzie** – terminating on a short spur using the former railway into Kirkintilloch.

(7) A possible option competing with the alternative of **extending electrified Whifflet line services through to Holytown/Carfin(Ravenscraig)** and on to the Shotts line or Wishaw. It is felt that the Carfin option may offer better value
- interchange for Cumbernauld would be possible at an upgraded Whifflet

station. For labour market access purposes, consideration could be given to an alternative diesel service (connecting with Springburn electric trains) from Springburn to Motherwell via Stepps, Gartcosh, Whifflet and Mossend. However, immediate needs might be met through bus service improvements. A more frequent **Gartcosh line service** and a possible extra station (with park and ride) at **Robroyston** might give best value if delayed until the **Garngad link** was available – electrification could be included at this stage

(8) This could be a feasible option before 2006, running at an hourly interval. Impacts on A80 corridor usage would be modest but, by offering a better facility than present Motherwell-Cumbernauld services terminating at Cumbernauld, social inclusion objectives would be advanced and better connections provided to main-line services at Motherwell

(9) These are worthwhile medium-term projects, especially if seen in conjunction with a link from Robroyston to east of Lenzie – see (4) above. More immediately, however, TRANS*form* Scotland supports urgent investigation of a priority shared running link from **Glasgow Airport via Paisley, Ibrox and the Finnieston Bridge to the Queen St low level line and on to East Kilbride via the St Enoch Bridge**. This would offer direct access to SECC and Pacific Quay while providing good interchange at Glasgow Queen St/Buchanan Galleries and Bus Station. The suggested reuse of the **former Buchanan St station approach tunnel** might offer a feasible route for an expanded local light rail network if linked either with **street running in central Glasgow** or with **conversion of the non-standard Circle Underground running under Buchanan St to light rail standards**. The Circle Underground is reaching the stage where major renewals will require consideration so this is a possible option for the years beyond 2009

8.1.8 New Forms of Public Transport The reference to **shared taxis** is noted but there appears to be an assumption that these would be used for quite lengthy trips. TRANS*form* Scotland would suggest further investigation of the option of intermediate 6 to 20 seat vehicles providing **Demand Responsive Transport** to and from selected rail and bus interchanges within distances of 2 to 5 miles. It is felt that such an option has more potential for cutting strategic road vehicle miles and aiding social inclusion than shared taxis on comparatively long trips. Yet there is a role for such taxis in some circumstances.

8.2 A8/M8 and urban M74 corridors

These are closely linked so integrated comments are provided

8.2.1 Road Elements to 2006

As with the A80/M80, decisions on pre-2006 improvements will be helped if post 2006 preferences are clarified. TRANS*form* Scotland considers that the long-term future of the corridor is likely to be as a two-lane motorway thoughout with options to add crawler lanes on the approaches to the Harthill summit. Between Baillieston and Newhouse, the present road should be up-graded to near motorway standards in the next 5 years (with much of this already incorporated in the major maintenance programme) but with a safeguarded option to convert the northern carriageway to a distributor road between Bargeddie and Newhouse, convert the present westbound carriageway to eastbound and add a two lane westbound carriageway to the south.

8.2.2 Programmes to 2006 could therefore include:-

- variable speed limits (from 50 mph down) between Baillieston and Newhouse
- signalised roundabouts to north and south of present A8 at Shawhead

(since these would be relatively low cost but offer immediate benefits, there need be no great concern that some of this work could be destroyed as part of a more comprehensive up-grade)

- direct link from Carnbroe to Eurocentral interchange and removal of east slips at Chapelhall
- adjustment of maintenance work to include continuous safety margins available to buses and HGVs and with additional emergency lay-bys between Baillieston and Newhouse (this option is felt to be more workable than the suggestion to reserve offside lanes for buses and HGVs at peaks. In particular, it could allow the novel feature of bus lay-bys offering direct interchange with local buses (or rail) at key locations
- queue relocation systems and preferred entry for buses and HGVs at selected entry points (including M8 west from Kingston Bridge as well as section east from city centre). There should be preferred bus access to and from western Alexandra Parade and the M8
- completion of Finnieston Bridge
- lorry priorities from Kinning Park to Oatlands and Parkhead
- new bus priorities between M8 at Ibrox and St Vincent St via the planned Finnieston Bridge at SECC/Pacific Quay and incorporation of this bridge in the quality public transport network

8.2.3 Beyond 2006 Options for evaluation should include:-

- addition of climbing lanes either side of Harthill
- evaluation of full up-grade to motorway of A8 between Baillieston and Newhouse with conversion of present northern carriageway to a distributor road also forming part of the quality bus network – this would be likely to involve a new interchange to the south of the present Shawhead interchange
- minor up-grade of inter-war A8 between Newhouse, Bathgate and Newbridge to provide an intermediate express bus route serving destinations other than central Edinburgh and central Glasgow but providing good interchange with express buses using the M8 and with demand responsive buses and park and ride at suitable locations. This option is seen as cheaper and more effective for social inclusion than providing the suggested new route for buses and lorries parallel to the M8. Conflicts between lorries and other traffic on the M8 can be eased by the proposed crawler lanes and an expansion of selective entry.
- other works to ease flows on north/south routes, provide bus priorities and reduce conflicts between street users and traffic (this may require construction of some new non-trunk roads to provide local relief)
- a review of the nature and scale of road links on the corridor linking the Waterfront Zone (with related pressures on M8 and Clydeside Expressway and Clyde Tunnel) through the East End to Clyde Gateway (Cambuslang/Baillieston) Major property schemes affect both sides of the river from Tradeston/ Broomielaw to Clydebank. These developments now include City Council plans for the regeneration of Tradeston as an extension of the city centre plus a new financial district to the north of the river. Without other action, these will increase traffic in the Broomielaw/Tradeston/Gorbals area well above environmental capacity. To the east, Oatlands is also affected by substantial regeneration proposals.

8.2.4 In these circumstances, **TRANS*form* Scotland is more convinced than ever that a transport strategy emphasising priority for the urban M74 above all other alternatives is untenable in terms of economic and social objectives (and the specific criteria in STAG). MVA should draw attention**

to this situation and should be free to evaluate modifed options for the period before and after 2006. Suggestions elsewhere in this submission outline how existing roads could be better managed and public transport/walk/cycle strategies delivered over the next 5 years. The Finnieston Bridge, including public transport priority, should also be provided within the next 5 years.

8.2.5 In addition to further public transport improvements and the re-creation of a city more suited to walking, cycling and shorter trips (and also more successful in terms of attracting jobs, residents and visitors), it is accepted that some roadworks are required in the Waterfront-Clyde Gateway corridor. In the light of the lower levels of road traffic arising from changing attitudes and integrated strategies, TRANS*form* Scotland suggests that a revised new road on the M74 corridor (aimed at providing relief for existing roads and communities) would require a design capacity of no more than 40,000 vehicles per day (compared to projections of 100,000 for the M74). The timing and design of such a route requires further stydy with full completion unlikely before 2010 in tandewm with substantial public transport improvements.

Public Transport Elements

8.2.6 Bus changes – as outlined above and in November, 2001, submission but with more attention to route details and frequencies as part of quality contracts, partnerships and marketing/information/ticketing initiatives. Demand Responsive Transport should also be expanded in parts of central Lanarkshire as well as in the Cumbernauld area, linking with rail interchanges and bus interchanges. Particular attention should be given to modifying the street network and one-way systems to improve access to and from Motherwell rail station and an upgraded and relocated station at Carfin (serving the line to Wishaw as well as that to Shotts) Consideration should be given to the creation of a quality bus/rail interchange in Airdrie with some related expansion of secure car parking.

The Overground bus network, possibly with partner operators, should be extended to create a quality network in Lanarkshire within three years, improving some links towards Glasgow while also introducing north-south quality routes and improved access to rail stations with integrated ticketing and marketing. Bus priorities should be introduced at major junctions as part of comprehensive schemes for quality routes operating at least quarter-hourly.

8.2.7 Rail Unlike the A80/M80 Report, MVA Working Papers are less clear on the possible timing of rail priorities for the M8/M74 corridors. Priorities MVA consider as deliverable by 2006 appear to be:-

(1) additional rolling stock, longer trains and (where necessary) longer platforms
(2) special priority for extra capacity between Glasgow, Falkirk and Edinburgh
(3) heavy rail link from Glasgow Airport to Glasgow Central (presumably including restoration of quadruple track between Shields Rd and Paisley)
(4) enhanced rail services to Ayrshire Coast and Kilmarnock (easing pressures on M8 and M77 approaching Kingston Bridge)
(5) electrification of Rutherglen-Whifflet, Larkhall and Shotts lines (allowing trains to divert to serve Argyle Line and SECC, easing pressures at Glasgow Central High Level and allowing frequencies on other services to be improved)
(6) selective expansion of bus feeders and park and ride – including locations such as Newton, Rutherglen and Paisley St James

8.2.8 TRANS*form* Scotland supports the proposals at (1), (4) and (5) above (in conjunction with reformed ticketing and road pricing) but makes the following comments on (2), (3) and (6)

(2) **Glasgow-Edinburgh Priorities** The TRANS*form* Scotland preference, in termsof both modal shift and social inclusion ratings, is for an **expansion of capacity on the Shotts and Carstairs routes to Edinburgh**, releasing space on the Falkirk route for additional intermediate passengers. A half-hourly intermediate express service between Glasgow Central High Level and Edinburgh via Shotts is considered achievable by 2004, associated with local services diverted via Whifflet to the Argyle line, bus feeders and significant park and ride at locations such as **Kirknewton** (for Livingston) and an up-graded and relocated **Carfin** (close to the Ravenscraig development Zone and Newhouse/ Chapelhall – this might involve closure of the present Holytown station) In addition, there is scope for adjusting GNER and Virgin services to provide enhanced peak capacity between Glasgow Central, **Motherwell** and Edinburgh. This is an issue of marketing and timetable adjustment since existing GNER and Virgin services have considerable spare capacity between Glasgow and Edinburgh. Gaps in the timetable could also be filled by ScotRail services via Motherwell, also calling at Carluke and Carstairs.

(3) **Glasgow Airport Access and Clyde Waterfront** TRANS*form* Scotland has doubts about the attraction of a rail service running only between the Airport and Glasgow Central. MVA has also indicated a desire for services crossing the St Enoch Bridge to points to the north and east but simultaneous introduction of both services is most unlikely. They would also do little to address current problems on the Waterfront and western M8. Hence the TRANS*form* Scotland preference for a quarter-hourly 'shared running' service from the Airport to Glasgow Queen St Low Level via Paisley, Ibrox and the Finnieston Bridge – possibly extending over the St Enoch Bridge to East Kilbride via Giffnock. This would serve a greater range of trips and offer a higher frequency that an Airport to Central High Level service. It could also connect with park and ride in the St James area (with easy access from M8 and Linwood spur). It would be possible for this Airport service to use the Central Low Level 'Argyle' line but this would lose the advantage of easy interchange to the north and east at Queen St and it would be more difficult to establish a connection from the Argyle line to the St Enoch Bridge. MVA consider that it would be 2007/08 before the first light rail or shared running route could be completed but, in view of Waterfront issues, rising M8 congestion and the desire for rail access to Glasgow Airport, an **airport rail link via the Finnieston Bridge could be in operation by October 2006 or April 2007**. Inwards from Ibrox, the service frequency could be raised to 8 per hour and there are opportunities to develop bus rail, rail/rail and car/rail interchange at Ibrox. For example, much of the parking space at Ibrox Stadium is underused. Most football matches and other events do not have direct conflicts with weekday trips into Glasgow so there are clearly interchange opportunities in this area as well as at Paisley St James.

Subsequent to this development, additional services could be provided from **Glasgow Airport** (and other south-west centres such as **Ayr, Prestwick** and **Kilmarnock** running through to points the **north and east of Scotland** via the **St Enoch Bridge**, possibly using the Garngad curve and the suggested express link from Robroyston to the Croy line east of Lenzie. In the same period, additional light rail links could be provided from Ibrox to the Airport and Paisley via an expanded Southern General Hospital, Braehead and Renfrew. These are issues for a wider Scottish and WESTRANS strategies, implemented from 2007 if evaluations prove positive.

(6) **Bus Feeders and Park and Ride** TRANS*form* agrees with the improvement of bus feeders and some expansion of park and ride but there are difficulties with the suggested **Newton** site (unless it were restricted to be served by the proposed improvement in Hamilton line services to quarter-hourly. Separate main-line platforms are unlikely to be justifiable at Newton and a better option might be to raise Whifflet line frequencies (once this route is transferred to run via the Argyle line) with additional parking close to the present end of the M74 at either **Carmyle** or a new station at **Bogleshole Road**. This could replace the suggested substantial expansion of park and ride at **Rutherglen** (though there is some scope for additional parking on the Argyle line at Rutherglen) All park and ride proposals require close attention to security issues and checks to ensure that commuter and shopping park and ride involves short rather than lengthy car trips for access. There should also be specific consideration of the extent to which park and ride might have a useful role in attracting present car trips to the east (and Anglo-Scottish trips) as well as trips into Glasgow. **Motherwell** could have an important role for such park and wide as well as providing good links to bus and local rail services.

8.2.9 Additional Schemes for Evaluation

Further schemes which may merit early priority due to modest cost and reasonable ratings for modal shift and social inclusion are:-

- **extension of the present Bellgrove terminating service to run through to Whifflet** (where an extra platform would be needed) or on to Motherwell or Carfin/Wishaw and/or a new service from Springburn to Whifflet via Gartcosh (see Section on A80/M80 Corridor).
- additional **Airdrie line** stations at **Parkhead** and other locations. Some of these could be served by skip-stop services – offering a minimum half-hourly frequency while main stations could have a frequency rising from 4 to 6 trains per hour (by the extension of Bellgrove terminating services to Coatbridge and Whifflet).

8.2.10 Rail Options beyond 2006

Apparent MVA evaluation preferences are :-

(1) Expansion of light rail in Greater Glasgow (possibly including lines to Cumbernauld – see A80/M80 Section) with particular emphasis on an additional link to the Airport via Braehead and a possible conversion of the Argyle line to light rail
(2) Further expansion of St Enoch Bridge services to provide direct access from the north and east to Glasgow Cross, West St, Ibrox and Glasgow Airport
(3) Reopening of rail link from Airdrie to Bathgate (possibly using light rail or shared running techniques)

8.2.11 TRANS*form* Scotland supports evaluation of the above but considers that:-

(a) the case for a **light rail/sharing running** network may be stronger in central Lanarkshire than in the Cumbernauld area. There are particular opportunities, as mentioned in the November 2001 submission, for creating a Lanarkshire urban rail network by extending Airdrie line services in a loop via Chapelhall, Newhouse, Carfin, Ravenscraig, Wishaw Hospital, Motherwell and Hamilton to East Kilbride (with options to return to Glasgow direct from Hamilton and/or from East kilbride via Giffnock or Cathcart).

(b) Expected rail passenger growth and rail freight growth requires examination of an **express link from Wishaw/Law to Edinburgh Park** (and Edinburgh Airport) via a new interchange hub at **Livingston Park** (about 1 mile west of the present Kirknewton station at the junction of the Shotts and Catstairs lines and close to the north/south spine road through Livingston). This would leave the present Shotts route free for freight and intermediate and local passenger services while creating an express route allowing a probable TGV type high-speed link from **London to Edinburgh** to run through to **Motherwell** and **Glasgow** (with supplementary trains giving a quarter-hourly service linking Glasgow and Edinburgh in 30 minutes). Through services could reach London in 3 hours 30 minutes from Glasgow, also bringing shorter trip times to a range of intermediate points. Such a link raises issues beyond the current Study but it is important that there should be awareness of the option. It would provide much improved links between Glasgow, Motherwell and Edinburgh while also encouraging a shift from energy intensive air travel (also experiencing landing slot problems in London) and long-distance car travel to greater use of rail for trunk passenger movement within Britain.

With respect to rail access from **Motherwell to Glasgow**, it is anticipated that sufficient capacity for trunk and regional rail passenger services could be provided by diversion of Hamilton line trains to operate under the main line at Newton and then into Glasgow via the western end of the Whifflet line or by the former direct route from Carmyle to Bridgeton (see the recent proposal by Glasgow City Council). Grade separation might be required at the present Uddingston junction. The existing option for direct rail travel from **Motherwell to Paisley** could also be developed as part of a fast passenger route from **Edinburgh** via Motherwell to Ibrox, Paisley and **Glasgow Airport**. A freight underpass or overpass would be required to provide connections from the Whifflet line to the Barrhead line should the Barrhead route take on an increased role **for freight movement** to and from England, English ports and the Channel Tunnel