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Addressing Key Challenges of Sustainable Urban Mobility Planning

D4.2 SUMP measure catalogues

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1 Introduction

The Commission's Action Plan on Urban Mobility (EC, 2009) recommended encouraging the adoption of Sustainable Urban Mobility Plans (SUMP). The 2011 White Paper (EC, 2011) proposed that there might be a mandatory requirement for SUMP for cities over a certain population, and that the allocation of regional and cohesion funds might be made conditional on the submission and auditing of a SUMP. The subsequent urban transport policy review (EC, 2013) confirmed the need for SUMP, and a parallel project, ELTISplus, provided guidance on the development of SUMP (ELTISplus, 2014). The CHALLENGE project focuses on four challenges in the SUMP process: participation, collaboration, option generation and monitoring and evaluation. This Deliverable reports on a critical stage in the work of WP4, which focuses on Option Generation: the identification of the individual policy measures and packages which should be considered in a SUMP.

What evidence there is suggests that Option Generation is rarely regarded as a key stage in the SUMP process. A study by Atkins (2007) for the UK Department for Transport of its Local Transport Plan process suggests that local authorities, in England at least, tended not to innovate, but rather to pursue schemes which have been under consideration for a long period, and to focus on infrastructure projects and management-based improvements to the infrastructure, rather than considering enhancements to public transport or ways of managing demand. The UK Eddington Report (Eddington, 2006) outlined the need succinctly: *"Unless a wide range of appropriate options is considered, there is a risk that the best options are overlooked and money could be wasted. A good option generation process is crucial to ensure that the transport interventions that offer the highest returns can be found. The full range of options should look across all modes and include making better use of the existing transport system, including better pricing; investing in assets that increase capacity; investment in fixed infrastructure; and combinations of these options."*

By definition, a policy measure which more effectively meets a city's objectives will be able to generate greater benefits. One that is more acceptable to the public and politicians will stand a greater chance of being implemented and thus actually producing benefits. One which offers greater value for money will be able to realise those benefits while making less demand on limited budgets. This pre-supposes that a city has identified its objectives and their relative priority, has a clear understanding of the problems which it needs to overcome, and is aware of the finance available for implementing a strategy and the acceptability and other barriers to doing so. As the SUMP guidance (ELTISplus, 2014) emphasises, these are all key elements in the preparation of a SUMP.

Fortunately, cities now have access to an increasingly wide range of policy measures. While information on the performance of some of the more recently developed policy measures is limited, some guidance is available from a number of sources. The principal ones are the VTPI TDM encyclopaedia (www.vtpi.org/tdm) (VTPI, 2015) and the KonSULT knowledgebase (www.konsult.leeds.ac.uk) (KonSULT, 2015). Other sources such as ELTIS provide case studies of successful policy interventions (www.eltis.org).

Unfortunately, very little guidance is available on how to select potentially suitable policy measures in the first instance; a challenge that has become more significant as the number of possible measures has expanded. This is even more the case for the development of packages of policy

measures, in which each can be expected to support the others by making it more effective or easier to implement.

The work in WP4 has been divided into four tasks:

1. **Task 4.1: supporting effective measure selection:** In this Task, the five advancing cities (Brno, Budapest, Krakow, Timisoara and Zagreb) specified their underpinning objectives, analysed their local mobility problems, and provided a first assessment of the possible policy measures available to them. As an input to identifying possible policy measures, all nine cities critically reviewed the then current version of KonSULT and identified potential enhancements to its structure and policy measures which might be added or updated. The output of this Task has been reported in D4.1.
2. **Task 4.2: elaboration of the process of measure identification:** In this Task, the support partners have updated and enhanced the KonSULT knowledgebase as a basis for the Measure Option Generator which is a key output of the project.
3. **Task 4.3: application of the process of measure identification:** In this Task, all nine cities have tested KonSULT to generate SUMP measure catalogues for their cities and to assess the performance of KonSULT as a Measure Option Generator. Subsequently the five advancing cities will use their SUMP catalogues to understand in more detail the steps involved in moving from a suggested shortlist of measures to an agreed strategy and implementation plan. In parallel two of the optimising cities, Dresden and West Yorkshire, will document the processes which they have adopted and provide advice to the advancing cities.
4. **Task 4.4: identifying lessons learnt and developing a measure identification kit:** In this task, the Measure Option Generator developed in Tasks 4.2 and 4.3 will be finalised, and key messages incorporated into a “quick facts” document and an e-learning course.

This Deliverable reports on the work undertaken in Task 4.2 and the first stage of Task 4.3. It is structured as follows:

- **Section 2** describes the initial development of the KonSULT knowledgebase and its status at the start of the project.
- **Section 3** identifies the enhancements to KonSULT which were agreed by the partners.
- **Section 4** details the approach adopted to making these enhancements and the resulting enhanced knowledgebase.
- **Section 5** describes the tests conducted by the nine cities.
- **Section 6** summarises the main findings of the cities’ tests.
- **Section 7** provides conclusions and outlines the resulting work to be carried out in Tasks 4.3 and 4.4.
- **Annex 1** lists the measures included in the current version of KonSULT and the work completed on them in this project.
- **Annex 2** describes the modelling work conducted in order to enhance the treatment of synergy in package option generator in KonSULT.
- **Annex 3** is the proforma used by the cities in testing KonSULT.
- **Annexes 4 – 12** are the resulting reports from the nine cities.
- **Annex 13** is the proforma adopted for the work to be carried out in Task 4.3.

2 The initial development of KonSULT

The principal weaknesses of the option generation process can be summarised as (Atkins, 2007; ECMT, 2006; ELTISPlus, 2012; May, 2013):

- an over-reliance on preconceived ideas;
- a tendency to focus on supply-side measures such as infrastructure and management rather than demand-side measures such as regulation and pricing;
- lack of awareness of the wider range of policy measures available;
- lack of evidence of the performance of those measures in other contexts;
- lack of a formalised approach for option generation;
- lack of expertise in designing a given policy measure to meet local needs;
- and failure to appraise the resulting options appropriately in terms of effectiveness, acceptability and value for money.

The Knowledgebase on Sustainable Urban Land use and Transport (KonSULT) has been designed to help overcome these weaknesses. It aims to assist policy makers, professionals and interest groups to understand the challenges of achieving sustainability in urban transport, and to identify appropriate policy measures and packages for their specific contexts. It also provides detailed information on individual policy measures which will be of relevance to professionals, researchers and students. It was launched at the first workshop of the WCTRS Special Interest Group on Urban Transport Policy in Leeds in 2002, and has been developed since then with support from the European Commission, the UK Department for Transport, the UK Engineering and Physical Sciences Research Council and the Rees Jeffreys Road Fund.

As originally conceived, KonSULT consisted of two elements: a Policy Guidebook and a Decision-Makers' Guidebook. The Policy Guidebook provides information on each of the policy measures available to urban transport planners, using a consistent format described below. The Policy Guidebook originated in 2001 with two pilot policy measures, and by 2012 had been expanded to 46 measures. The Decision-Makers' Guidebook presents the challenges facing those responsible for urban transport policy, offers a logical structure for tackling those challenges, and provides guidance on each stage in that logical structure. In particular it offers a fuller explanation of each of the concepts used in the Policy Guidebook. It was published in 2005, and was based on the four year Land Use and Transport Research programme under the European Commission's City of Tomorrow programme (May et al, 2005). It can be considered as a precursor to the current SUMP guidance (ELTISplus, 2014).

A fuller description of the development of the policy guidebook can be found in Jopson et al. (2004). The database initially contained a list of 60 potential policy measures based on a taxonomy developed by May and Still (2000) and extended by Matthews and May (2001). These policy measures are grouped into six high level categories of: land use interventions, infrastructure projects, management and service measures, behavioural and attitudinal measures, information provision, and pricing.

Each measure is described following a standard structure:

- summary: a one page summary of the description and findings;
- taxonomy and description, which describes what the measure is, how it works, what it tries to do, and how it contributes to different strategies;
- first principles assessment, which assesses from first principles how it affects demand, supply and finance; how, through these impacts, it might contribute to policy objectives and the resolution of policy problems, and what the barriers are to its implementation;
- evidence on performance, which summarises a series of case studies, and empirical evidence on their contribution to policy objectives and problem resolution;
- policy contribution, which combines the findings of the previous two sections to summarise the measure's contribution to policy objectives and the resolution of policy problems, and identifies the areas of a city in which it might most usefully operate;
- and references.

To ensure consistency of treatment, a standard eleven-point scoring method is applied, ranging from +5 (a highly positive contribution) to -5 (a highly negative contribution) throughout the knowledge database. Each of the concepts used, including objectives, problems, strategies and barriers, is more fully described in the Decision-Makers' Guidebook.

The initial version also included a list of complementary measures that would work well with the selected measure by helping to overcome barriers or enhance its positive impacts. This was subsequently replaced by the package option generation facility described below.

The policy guidebook was populated and updated using resources on a number of related projects over the ten year period to 2012, with the aim in due course of providing input on all 60 potential measures. By 2012, it contained 46 policy measures, most of which had been updated within the previous three years.

The need for an option generation facility was first identified in a major project which was developing decision-support tools to help overcome the barriers to SUMP development (May, 2009; Jones et al, 2009). The initial product was an option generator for individual policy measures. Users can specify their requirements in any one of three ways: in terms of their policy objectives, the kinds of problems that they face or the indicators that they wish to improve. The lists of possible objectives and problems are those which were already included in KonSULT. The category of 'Indicators' was added in response to the growing emphasis which UK local authorities were being asked to place on indicators and targets, and the resulting work described in Marsden and Snell (2009). The indicator list was developed using the principles in Marsden and Snell, and each of the measures was scored, based on professional judgment, in terms of its likely contribution to improving each indicator.

Users are asked to decide whether to base the search on either local objectives, or problems or indicators, to reduce the risk of double counting. The specific objectives (or problems, or indicators) are then selected, and in each case a degree of importance can be assigned, from 1 (lowest) to 5 (highest). Users also provide details of the type of area they are concerned with (corridor, town centre, outer suburb, etc.) and, if they wish, the types of strategy that they envisage adopting. These

strategies are also selected from the categories in KonSULT, and include reducing the need to travel, reducing car use, and improving selected modes. Again users can specify the degree of importance to be assigned to each selected strategy.

Once these inputs have been provided, the option generation tool uses the values from KonSULT's eleven point scores and the user's weightings to rank the policy measures in order of their potential relevance to the context described. Users can specify whether they want an ordered list of all measures or only, say, the top ten, or only those achieving at least a given score, or only those from a particular category. The output also provides a broad indication of the cost for each measure, and provides a direct link to the fuller information on each measure in the KonSULT Policy Guidebook. The KonSULT option generator thus provides an innovative approach, which stimulates the user to specify his or her requirements, and to consider a wider range of solutions. It is, however, left to the user to decide whether to pursue any of the shortlisted solutions.

Subsequently, a simple package option generator was developed, drawing on the principles of integration, as described more fully in Kelly et al (2008), and using the output from the individual measure option generator for the user's specified context. Users were able to choose whether to identify measures which would complement a chosen measure, or whether to identify the most appropriate packages (of between two and five measures) from a user-specified shortlist of up to ten measures. In either case they were able to seek packages which would help overcome barriers, or ones which would help achieve synergy. For each, the score for the complementary pair or package was determined using an additive relationship, shown for three measures X, Y and Z as:

$$S_{(X+Y+Z)} = S_X + S_Y + S_Z + I_{(X+Y)} + I_{(Y+Z)} + I_{(Z+X)}$$

Where S_X is the score for measure X from the initial measure option generator, and $I_{(X+Y)}$ is the interaction score between measures X and Y. To this end two simple 6*6 interaction matrices were developed between the six categories of measure, such as land use and infrastructure. That for barriers was based on the number of barriers between the two categories identified in the Decision-Makers' Guidebook; that for synergy was based on a series of model tests of hypothetical combinations, described more fully in Kelly et al (2008). The most recent description of KonSULT as it had developed by 2012 is given in May et al (2012).

3 The agreed enhancements to KonSULT

Partners reviewed the outline list of 60 measures and the detailed information on 46 of these included in the initial version of KonSULT. At the consortium meeting in Leeds in November 2013 they identified measures which they would like to see updated or added, and those which might be re-specified. This led to the identification of

- 19 wholly new entries;
- 23 substantial updates;
- 10 for which missing information and updated tables were to be added;
- 14 for which updated tables (to reflect decisions in CHALLENGE) were to be added;
- 4 measures included in the outline list which it was agreed were no longer needed.

In parallel partners were encouraged to test KonSULT and assess it critically. These assessments were conducted before and during the Measure Identification Workshop held in Amiens in April 2014. This led to a number of agreed amendments to the structure and documentation of KonSULT.

For the KonSULT website as a whole they involved:

- providing a brief description of how to use KonSULT at different levels (for differing levels of expertise);
- acknowledging supporters on the home page, to include the EC disclaimer;
- adding to the summary of each updated measure an indication of when the measure was updated and which the most recent author institution was;
- providing an explanation of what is happening within the website, to help professionals explain outputs to decision-makers;
- creating the new website in HTML and PHP on Leeds University's Faculty of the Environment Research web server;
- migrating existing text and image content to the new website;
- redirecting the existing KONSULT website URL (www.konsult.leeds.ac.uk) to the new website.

For the initial option generator they involved:

- suppressing the identification of responsibilities;
- clarifying the areas of application;
- distinguishing between measures that can be used in the short and longer term;
- clarifying what the scores mean, and rounding them to integer values.

For the package option generator they included:

- prompting users to omit measures that they cannot use for legal, regulatory or technical reasons;
- allowing users to define a starting point;
- expanding the barriers matrix to reflect the barriers identified in CH4LLENGE;
- expanding the synergy matrix to reflect synergy between types of measure for different performance indicators, based on analysis using our MARS model;
- enabling the user to compare packages with their current strategy, and also to test the implications of removing a controversial measure from a package.
- The approach adopted to making these enhancements and the resulting enhanced knowledgebase

As noted in the previous section, the outline list of 60 possible measures in the original version of KonSULT was expanded to 66 measures which reflected the full range of measures of interest to the partner cities. Between January and September 2014, five support partners contributed 61 of these measures. Of these, 14 involved updating key tables, 10 minor updates, 23 substantial updates and 14 wholly new entries. The latter included developer contributions, low emission zones, promotional activities such as car free days, bike sharing, crowd sourcing and integrated ticketing. The full list is given in Annex 1. In all, the policy guidebook now includes over 200 case studies. Care was taken not to change the structure of the current content, but tables were added to assess each measure's contribution to the range of strategies, and the barriers which each measure faces. For the latter, an

extended list of barriers was identified, based on cities' experience. These included legal, financial, governance, political acceptability, public acceptability and technical.

Resources were not available in the period to complete the remaining five new measures: terminals and interchanges; lorry parks; transshipment; cycle and pedestrian safety; and in-vehicle guidance systems. However, following discussions in the Budapest consortium meeting, we expect to be able to include these in the final version of the knowledgebase to be delivered in D4.3.

The website, which had used a somewhat dated platform, has been substantially updated and restructured. It now adopts a more logical approach, in which the user is invited to enter the option generator as the first level, then access the second level policy guidebook to find out more about specific measures suggested by the option generator, and finally use the third level decision-makers' guidebook to seek further guidance on the concepts such as barriers, objectives and strategies which the policy guidebook uses. However, the user is also able to enter either of these guidebooks directly if required. Each level is accompanied by a description which explains the basis on which it has been developed; a fuller analytical explanation is also given for the option generator. At the same time, each new or revised policy guidebook entry now includes an indication of the date at which it was last updated and an acknowledgement of the institution involved. Finally a "contact us" facility has been added to encourage professionals to offer additional case studies. All material was transferred to the new website, which was launched in September 2014.

In parallel, substantial improvements have been made to the option generation facilities, based on the guidance from city partners outlined in the previous section. For the individual measure option generator, these involved:

- suppressing the identification of user type, since in practice virtually all users have been found to be responsible for, or directly interested in, urban transport policy;
- redefining the areas of interest within a typical city;
- providing an assessment of the time typically required to implement a specific measure, so that users can highlight measures suitable for a short term Plan; and
- clarifying the meaning of the resulting score, and simplifying it to an integer value between zero and 100.

For the package option generators, the principal enhancement has been to expand the interaction matrices from a 6*6 to a 61*61 matrix, so that there is a specific score for each pair of measures, and those matrices can be readily updated as new measures are added. The single barriers matrix was developed judgmentally by considering the four barriers which packaging could potentially address: finance, political acceptability, public acceptability and governance. (It was assumed that packaging would be unlikely to resolve legal or technical barriers.) Each measure is scored in the policy guidebook on a zero to -5 scale against each of these barriers. For simplicity the interaction score for each pair of measures was taken as the sum of these scores for the pair of measures.

The single synergy matrix was replaced by four matrices, reflecting indicators of accessibility, accidents, carbon emissions and delay, which are used as proxies for the longer lists of objectives, problems and indicators used in the individual measure option generator. For each indicator, synergy was calculated for each pair of measures from series of model tests of representative measures using a MARS model (Pfaffenbichler et al 2010) of Leeds. To simplify the modelling task,

tests were conducted on eleven individual measures, alone and in pairs, with each selected measure being assumed to represent one of eleven types of measure in the policy guidebook. This simplification will also mean that further measures can be added without the need for new model-based tests. The package option generator uses the weightings assigned by the user to objectives, problems or indicators, to obtain a weighted value of the four interaction scores for any given pair of measures. Detailed information on these tests is given in Annex 2.

These upgraded option generation facilities were completed and launched in December 2014. It was not possible in that timescale to provide facilities to enable the user to define a starting point (in terms of measures already in place), or to compare packages to assess, for example, the impact of omitting a particularly sensitive policy measure. These will be implemented alongside other requirements identified in the testing process and included in the final version of the knowledgebase to be delivered in D4.3.

4 The tests conducted by the nine cities

The city partners were invited to test KonSULT for two purposes:

- i. to generate a measure catalogue to provide new insights into the measures which could be implemented in the city;
- ii. to assess the effectiveness of the enhanced KonSULT knowledgebase and to identify further enhancements.

To this end, a proforma was developed in discussion with partners which provides advice on the testing process to be adopted and the questions to be answered. The final version of the proforma is shown in Annex 3. Cities were encouraged to generate one or more lists of measures, based on their existing or planned SUMP. They were free to base these on the whole city or a defined area; on selected objectives, problems or indicators; and on specific strategy elements. For some or all of these lists they were encouraged to generate lists of complementary measures or packages, based on either the reduction of barriers or the pursuit of synergy. At each stage in the process they were asked whether the measures and packages in the resulting lists were:

- already adopted;
- already under consideration;
- potentially suitable for consideration;
- inappropriate for consideration.

In the first two cases they were asked whether the information in KonSULT added to or differed from their understanding. In the latter two they were asked for reasons. Subsequently they were asked to identify one or two lists which they would most like to consider implementing. These were to be their Measure Catalogues on which those involved would base their more detailed strategy development in the latter stages of Task 4.3. For those in these lists which they had not already implemented they were asked to assess the requirements for public acceptance and institutional cooperation, as inputs to work in WPs 2 and 3.

Finally they were asked to provide comments on the performance of the website and to suggest additional case studies which might be included.

All the cities completed their assessments between February and April 2015. Cities were free to report as they wished, on the understanding that they answered the questions in the proforma. The WP leader reviewed each initial report, sought clarifications where necessary and agreed on the final version. The resulting reports are included as Annexes 4 – 12.

5 The main findings of the cities' tests

Since the level of experience with the selection of policy measures and packages can be expected to differ as between the more experienced optimising cities and the less experienced advancing cities, their findings are presented separately.

5.1 Optimising cities

5.1.1 Amiens

Amiens had developed its PDU (SUMP) in 2013, but a change in administration led to a major change in emphasis in 2014 with the abandonment of its proposed tram network. Amiens has since decided to revise the SUMP in 2018 but meanwhile the city will propose a Bus Rapid Transit system instead of the tram network. Amiens has used KonSULT as an input to the process. It tested one context, in which it included all the objectives and strategy elements in KonSULT, weighted to reflect the current emphases in its SUMP development. It subsequently investigated measures to achieve synergy with bus priority measures, which are a major focus of its current planning. Its selected measure catalogue involved seven measures prioritised by KonSULT which Amiens were currently considering.

Amiens noted that 38 of the 61 measures in KonSULT were already included in its SUMP, and a further seven were under consideration. KonSULT did not suggest measures which were not already being considered, but Amiens commented that the information in KonSULT might suggest changes in the relevance and ranking of some measures, and hence to further development of the SUMP. Amiens identified four measures which they would not consider: new rail lines and stations, which were inappropriate to the scale of Amiens, road user charging, given the current economic conditions, and vehicle ownership and fuel taxes which were national policies. They commented that KonSULT's recommendations were consistent with their own thinking, but that the knowledgebase provided valuable additional information on the relevance and implementability of individual measures. They found KonSULT easy to use, with clear step by step explanations, and helpful definitions which were valuable for non-English speakers. They would like to have seen more information on the meanings of the scores, and further concrete examples of cities which had already implemented specific measures.

5.1.2 Dresden

Dresden has recently finalised the specification of its SUMP. Its tests of KonSULT therefore related to the objectives and strategy agreed for its SUMP. It specified three contexts. The first covered the whole city and related to the SUMP objectives and strategy. The second covered the whole city, but related to performance indicators. The third focused on the city centre, again with the agreed

objectives and strategy. It subsequently developed one package for each context, using complementary measures for two, packages for the third, and pursuit of synergy in all three. Its selected measure catalogue was that derived from the first two contexts, which could thus be compared directly to the measure catalogue already adopted for its SUMP, and which will be used in the next stage of work on option generation, described in Section 7.

Dresden noted that 54 of the 61 measures in KonSULT had already been adopted in its SUMP, and that the remaining seven would not be adopted, either because they were not legally available or because they had been judged ineffective or unacceptable. It commented that KonSULT was helpful in confirming the decisions already taken in the SUMP process. It noted that the information in KonSULT was consistent with the city's understanding and provided valuable additional information. Dresden commented that KonSULT was unlikely to add significantly to the knowledge of experts in larger cities, but should be of considerable help to students, young professionals, smaller cities and those who were as yet not so expert. It noted that KonSULT was not appropriate for the detailed design of measures, and that further work would inevitably be needed to apply selected measures to the city and regional context. This is the focus of the next stage of work on option generation.

5.1.3 Gent

Gent has encouraged the development of SUMPs over the last five years. The city itself has been very active in the EC CIVITAS programme. It specified three contexts. The first related to a new project for enhancing a significant urban corridor, and was expressed in terms of the objectives for that project. The other two related to their existing strategy for tackling congestion in the inner city, and reflected in turn the problems which they were facing and the indicators which they were using. It subsequently developed one package for each context, using complementary measures and synergy for the first and packages reflecting synergy and barriers for the second and third. Its preferred measure catalogue related to the first list, with a particular emphasis on land use measures, since the urban corridor project is broader than simply a transport one.

Gent commented positively that the suggestions from KonSULT reflected directly the strategy which the city had adopted in tackling congestion in the inner city, and that it matched very closely the set of measures which it was already considering for the urban corridor project. It identified two measures suggested by KonSULT for tackling inner city congestion, school travel plans and company travel plans, which it had not considered but might now pursue. It also mentioned three measures, road user charging, low emission zones and vehicle taxes, which it would be interested in, but which were not legally available to it. It identified no inconsistencies between KonSULT's assessment and its own understanding, but noted that performance of measures would depend on the scale and detail of their implementation. It considered that KonSULT provided a clear understanding of the performance of individual measures and the organic nature of an overall strategy, and could be of particular help in working with stakeholders and as an inspirational tool for considering new approaches. It commented that it was somewhat more difficult to understand the scale of synergy in a given package, and noted generally that KonSULT did not guide cities as to how to implement a given measure.

5.1.4 West Yorkshire (WYCA)

West Yorkshire has 15 years' experience of the development of SUMPs. It specified four contexts. The first reflected the balance of objectives in its current SUMP, using in turn objectives, indicators

and problems. The second used these same objectives, but with an increased emphasis on the environment. The third reflected the emerging objectives for the SUMP currently under development; the fourth added to this by specifying a particular strategy. It developed 14 packages; six each for the first and fourth contexts and two for the third. These were used to explore alternatives, including measures which West Yorkshire would not currently consider implementing. Its preferred measure catalogue was that derived in the third context (the objectives for the SUMP currently under development). This is the measure catalogue which it will use in the next stage of work on option generation, described in Section 7. It also identified two preferred packages, one related to the first and one to the third context.

West Yorkshire was already using 53 of the 61 measures in KonSULT, and was already considering a further four measures, so it was perhaps unsurprising that KonSULT did not suggest measures which they were not already considering, or offer new insights into them. Of the four measures which it would not use, two were outside its area of responsibility (vehicle and fuel taxes) and two were considered politically unacceptable (regulatory restrictions and road user charging). They identified three measures (conventional traffic management measures, bike sharing and parking guidance) whose ranking in KonSULT was inconsistent with their expectations. They also commented that KonSULT did not appear more generally to reflect their expectations of potential economic regeneration benefits. These comments apart, they concluded that the output from KonSULT was consistent with the policies that they were currently pursuing. They found KonSULT useful and easy to use for suggesting both individual measures and packages. They would, however, like to have had a fuller explanation in the Policy Guidebook of the processes by which measures could reinforce one another, or overcome barriers to their implementation, and hence of the principles underpinning the recommended packages. They noted that it was difficult, in KonSULT, to reflect the scale of application of particular measures in a conurbation and that, in practice, this would affect the performance scores.

5.2 Advancing cities

5.2.1 Brno

Brno is in the early stages of developing its first SUMP. It specified one context, focusing on the city centre and using the objectives and strategy emerging from its SUMP development process. It developed one package, identifying measures which would complement parking charges in the pursuit of synergy. While the full list of measures generated for its chosen context was of interest, it chose a measure catalogue limited to two measures, regulatory restrictions and parking charges, in which it was particularly interested.

Brno identified these and fare structure as measures which it would be interested in pursuing further, and was particularly interested in the complementary measure facility to assist in identifying measures to support parking charges. It was already using 28 of the measures in KonSULT, and actively considering a further nine. KonSULT had prompted it to consider the use of fare structures as an additional measure. Brno only identified bus rapid transit as inappropriate for its SUMP for the city centre, since it had decided to focus on trams as the public transport mode. It concluded that KonSULT did not differ from the city's understanding of the measures which it was using, but was valuable in providing detailed information in a clear and structured way. It planned to use KonSULT further in the detailed development of its SUMP. Its only criticism was that it was not possible to

assign objectives, problems and indicators in a single context; as explained in the website, this is done to avoid double counting, since there is typically a one to one relationship between objectives, problems and indicators.

5.2.2 Budapest

Budapest is very well advanced in developing its first SUMP. It specified two contexts, both related to its current draft SUMP, with one reflecting objectives and the other problems. It developed four packages for each; two were for packages of five at a time from the top ten measures; two were for measures to complement road user charging, which is a key political issue in Budapest. In each case one package reflected synergy and the other barrier reduction. Budapest chose as its measure catalogue the second list derived from problems, since its top 30 contained more measures already under consideration in the draft SUMP. Its preferred package was that derived from the pursuit of synergy among the top ten measures in this measure catalogue.

Budapest's draft SUMP already includes 44 of the 61 measures in KonSULT, but for 12 of these it considered that KonSULT added to its understanding. KonSULT also suggested six measures which it had not yet included, but were of interest (school travel plans, maintenance, high occupancy vehicle lanes, crowd sourcing, low emission zones and private parking charges) although the last two of these are not currently legally available. The remaining measures in KonSULT were not ones which that the city would consider. These included all the land use measures, since their SUMP is a transport plan, bus rapid transit, since their focus is on rail, measures such as freight management and flexible working hours, which depend upon the private sector, and telecommunications and vehicle taxes, which are government responsibilities. It identified no inconsistencies between KonSULT's advice and its own understanding of individual measures. It commented that KonSULT was easy to use and provided extensive information in an easily accessible format. It commented that one or two of the measures (e.g. promotional activities, intelligent transport systems) were in practice packages of measures, which might usefully be disaggregated.

5.2.3 Krakow

Krakow has been working towards the development of SUMP for some time. The city itself has been active in the EC CIVITAS programme. It tested one context, reflecting its emphasis on tourism, based on the problems which it had identified and its emerging strategy. It developed one list of packages, taken five at a time from a list which largely represented the top ten measures in its initial list, and designed to reduce barriers to implementation. Its measure catalogue focused on measures which it had not yet considered but might now wish to pursue: land use measures; cycle networks; road user charging; school travel plans; park and ride; company travel plans; and flexible working hours.

Krakow was already using 18 of the measures suggested by KonSULT. KonSULT suggested a further nine measures which it was already considering, and four which it had not, but might now pursue as complements to existing measures. In all cases it commented that KonSULT added to its understanding of the measures, particularly in the sections on terminology and case studies. It noted that detailed implementation would require a fuller understanding of local conditions than KonSULT could offer. The city had not previously considered packaging of measures and found the concept helpful, but suggested that the guidance on the principles of packaging and the interpretation of the package scores could be improved. It commented that KonSULT had a number of attractive features

and provided extensive and valuable information. It would have preferred to be given shorter lists of the best performing measures (a facility which is in practice available), and would have liked more guidance on the meaning of the scores and cost and timescale categories.

5.2.4 Timisoara

Timisoara has recently promoted the concept of SUMP, but the city itself is in the early stages of considering them. It is employing a consultant to develop the SUMP, who it is hoped will be involved in future stages of the work on option generation. It tested one context reflecting its emphasis on efficiency and liveability and its strategy of promoting sustainable modes. It generated a set of packages taken two at a time from a set of five measures chosen from the top 20 measures in the list and designed to reduce barriers to implementation. Its preferred measure catalogue included 11 measures, seven of which had already been implemented (but could be expanded) and four which were in the process of implementation: bike sharing, integrated ticketing, urban traffic control and variable message signs.

Timisoara was already using seven of the measures suggested by KonSULT, and considering a further eight. KonSULT had suggested one measure (cycle parking and storage) which it had not previously considered. In all cases KonSULT was consistent with its understanding of these measures, but provided valuable additional information which helped all members of the team to have a common understanding both of concepts and the performance of individual measures. It was for them their first exposure to a facility of this kind.

5.2.5 Zagreb

Zagreb is in the early stages of developing its SUMP. It tested one context for its city centre which pursued the objective of liveable streets and the strategy of improving use of road space. It developed a set of packages taken five at a time from a set of eight measures selected from the top 20 in its list. Its preferred measure catalogue was one of these packages, including cycle networks, pedestrian areas and routes, pedestrian crossing facilities, regulatory restrictions and road user charging. It was particularly interested in improving the connectivity of its cycle and pedestrian networks and in using road user charging to free up road space.

Zagreb was already using four of its shortlisted measures, and actively considering a further two: off street parking and traffic calming measures. KonSULT had not prompted it to adopt additional measures, but the city noted that it was very useful in helping understand the supporting evidence and related references, and that it prompted them to consider the wider application of the measures suggested. In particular, it would now be exploring the concept of packages and the particular contribution of road user charging. It noted, as other cities have done, that detailed implementation will depend on local circumstances.

6 Conclusions and implications for the resulting work to be carried out in Tasks 4.3 and 4.4

Option generation, the identification of the individual policy measures and packages which should be considered in a Sustainable Urban Mobility Plan (SUMP), is one of the weakest links in the development of a SUMP. Unfortunately, very little guidance is available on how to select potentially suitable policy measures in the first instance; a challenge that has become more significant as the number of possible measures has expanded. This is even more the case for the development of packages of policy measures, in which each can be expected to support the others by making it more effective or easier to implement.

This deliverable describes the further development of the KonSULT measure option generator, which aims to assist policy makers, professionals and interest groups to understand the challenges of achieving sustainability in urban transport, and to identify appropriate policy measures and packages for their specific contexts.

Based on a critical review of the knowledgebase by partners, it has been restructured to encourage the user to generate appropriate lists of measures and packages for the context which they describe, then explore the information on specific measures in more detail in the knowledgebase's Policy Guidebook, and subsequently to use the knowledgebase's Decision-Maker's Guidebook to gain a greater understanding of underpinning concepts. The Policy Guidebook has been expanded to cover 61 policy measures, of which 14 are wholly new, 23 involved major updates, a further 10 received minor updates and the remaining 14 were modified to include new tables agreed in the project. The measure option generator includes facilities for suggesting individual measures, complementary measures and packages. The latter two have been reformulated based on further research into the principles of integration related both to the overcoming of barriers and the pursuit of synergy.

All nine city partners have tested the enhanced version of KonSULT, as reported in the previous section. This summary provides an overview of the findings and highlights further improvements which have been suggested.

As had been expected, KonSULT proved to be of greater value to cities at an earlier stage in the development of their SUMP. Even so, all eight cities confirmed that it reflected their understanding of the policy measures which they were using, seven considered that it provided more information than they had previously had available, and five identified possible new policy measures as a result of using it. All cities found it easy to use and several commented favourably on its logical structure, definitions, case studies and references. Many of the advancing cities had not previously considered the packaging of policy measures, and all welcomed the guidance which KonSULT gave on the wider application of individual policy measures and the use of packaging and complementarity to increase their effectiveness.

Several respondents commented on the potential audience for KonSULT. One respondent who had recently completed a SUMP for an optimising city suggested that experts in the more advanced cities were unlikely to find much new information in KonSULT, but that it should be of particular use for those who were still developing that expertise, for students and young professionals, and for those working in smaller and less advanced cities, with less direct access to policy guidance. Others

commented that KonSULT had been, or could be, of particular value in consultations with stakeholders and the public.

Several comments identified aspects of KonSULT which could be further improved. These are listed below under relevant headings, together with the few aspects identified in Section 4 which have yet to be completed. Within the resources available, these enhancements will be completed and incorporated into the final Measure Option Generator, due in December 2015.

- **Navigation:** One respondent commented that it was difficult to return from one package test to the original list of policy measures. The Project Officer also noted this, and suggested that it would be helpful to bring related content together in sub-menus and to display the user's current position in the measure selection process.
- **Individual policy measures:** Five planned new measures (terminals and interchanges; lorry parks; transshipment; cycle and pedestrian safety; and in-vehicle guidance systems) are still to be added. These will be completed provided that the partners concerned have the resources available. West Yorkshire questioned the assessments of three measures (conventional traffic management measures, bike sharing and parking guidance); these will be further checked. West Yorkshire also suggested that KonSULT did not reflect its understanding of the contributions of individual measures to economic regeneration (which is covered under the objective of economic growth). This reflects a current policy debate in the United Kingdom, but we will check whether there is additional empirical evidence which can be cited. Dresden was unclear where trams were covered; the light rail entry will be amended to make clear that it includes tram systems. Budapest thought that two measures (promotional activities, intelligent transport systems) were in fact packages of cognate measures. It may be possible to split these into their constituent parts, but this would not add to the information available.
- **Case studies:** Amiens commented that more case studies of cities which had implemented specific measures would be valuable. Unfortunately none of the respondents offered new case studies, but we are in contact with other projects, such as EVIDENCE, and will encourage them to offer additional case studies or, at least, appropriate links to their findings.
- **Interpretation of scores:** Some respondents commented that they were unclear as to the meaning of the scores and the interpretation of situations in which several packages generated similar scores and where apparently similar contexts generated different ones. We had already included fuller advice on this, but will ensure that this advice covers these points, and is readily linked from the outputs which list scores. In particular that advice will stress the point that absolute scores are arbitrary, cannot be compared between lists, but are of use in assessing the relative contribution of different measures or packages within a given list. Some respondents appeared to have generated non-integer scores. This should have been avoided in the improvements made, and we will check why this happened.
- **The principles of packaging:** While many respondents found the packaging facilities valuable, several felt that the principles could be made clearer, and that some background information could be given in the Policy Guidebook on why particular combinations might be helpful. We will address the general principles in the guidance, but it may be a little more complicated to provide advice on the way in which packaging works for each combination of measures. At the same time we will enable users, as planned, to define a starting point for their packages and to compare package outputs.

- **The detailed design of measures:** Most respondents made the point that, while KonSULT was helpful in suggesting broad types of policy measure, it was not suitable for the detailed design of specific measures in a given region or city network. This was never the aim of KonSULT, and this is an element in the option generation process which is still to be investigated and documented as part of the work on Task 4.3. Our agreed approach for doing this is specified in Annex 13.

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Annex

Annex 1: KonSULT measures

The table below summarises the current situation on measures to be added to or updated in KonSULT. It shows the full set of 66 measures which are to be included in KonSULT. It also shows in (brackets) those measures which have not yet been completed, but which will be included in the final version subject to the availability of resources.

The measures are listed as they appeared in the original version of KonSULT, with those underlined being new measures. The numbers in the first column show the order in which they now appear. Those numbers in *italic* involve a transfer to another group. Four measures listed in the original version of KonSULT have been deleted; these are ~~scored out~~. In some cases a new title has been agreed; these are shown with the old title in *[italic]* (in some cases abbreviated). The group of attitudinal and behavioural measures has been moved to after management and service provision (whose title is changed).

Table 1: KonSULT measure update

Code	Measure	Input required	Provided by
1	Land use measures		
1.1	Development density and mix	None	
1.2	Land use to support public transport <i>[Enc pt use thro lup]</i>	Updated	UIRS
	Dev pattern	Omit	
1.3	Parking standards	Updated	UIRS
1.4	Developer contributions <i>[D c to support infra]</i>	New entry	ITS
	Value capture	Omit	
4	Attitudinal and behavioural measures		
4.1	<u>Promotional activities</u>	New entry	FGM
4.2	Personalised journey planning	None	
4.9	Flexible working hours	None	
4.8	Car clubs	None	
4.10	Telecommunications	None	
4.3	Company travel plans	None	
4.6	Ride sharing	None	
3.15	Demand responsive transport	Minor	ITS
4.4	<u>School travel plans</u>	New entry	FGM
	Promoting eco-driving	Merged with 4.1	
4.5	<u>Promoting low carbon vehicles</u>	New entry	FGM
4.7	<u>Bike sharing</u>	New entry	ATU
2	Infrastructure measures		
2.1	New road construction	New entry	ITS
2.2	Off street parking	Updated	FGM
	New rail lines	Omit	
2.4	New stations	Minor	ITS
3.12	New rail services	Minor	ITS

2.3	Light rail systems	Minor	ITS
2.5	Bus rapid transit	None	
2.6	Park and ride	Updated	UIRS
(2.7)	(Terminals and interchanges)	New entry	To allocate
2.8	Cycle networks <i>[cycle routes]</i>	Updated	RC
2.9	Pedestrian areas and routes	Updated	ATU
(2.10)	(Lorry parks)	New entry	To allocate
(2.11)	(Transshipment)	New entry	To allocate
3	Management and service measures [Management of the infrastructure]		
3.1	Road maintenance	New entry	ITS
3.2	Conventional traffic management	Updated	ATU
3.3	Urban traffic control	None	
3.4	Intelligent transport systems	Minor	ITS
3.5	Accident remedial measures	Updated	ITS
3.6	Traffic calming measures	Updated	UIRS
3.8	Physical restrictions	Updated	ATU
3.9	Regulatory restrictions	Minor	ITS
3.10	<u>Low emission zones</u>	New entry	UIRS
3.12	Parking controls	Updated	ITS
3.13	Bus services <i>[pt service levels]</i>	Updated	ITS
3.14	Bus priorities	Updated	ATU
3.16	Bus fleet management systems	Minor	ITS
3.17	Bus regulation	Minor	ITS
3.7	High occupancy vehicle lanes	Minor	ITS
3.18	Segregated cycle facilities <i>[Cycle lanes]</i>	Updated	RC
3.19	Cycle parking and storage <i>[cyc pkg prov]</i>	Updated	RC
(3.20)	<u>(Cycle and pedestrian safety)</u>	New entry	To allocate
3.21	Pedestrian crossing facilities	Updated	RC
3.22	Lorry routes and bans	Minor	ITS
3.23	Road freight fleet management systems	None	
5	Information provision		
5.1	Conventional signs and markings	Minor	ITS
5.2	Variable message signs	Updated	ITS
(5.3)	(In-vehicle guidance systems) <i>[Real time...routeing]</i>	New entry	To allocate
5.4	Parking guidance <i>[and information]</i> systems	None	
5.5	Conventional timetable and service information	New entry	ITS
5.6	Real time passenger information	Updated	ITS
5.7	Trip planning systems	New entry	ITS
	Operational information systems	Omit	
	Static direction signs	Omit	

5.8	Crowd sourcing	New entry	ITS
5.9	Barrier free mobility <i>[Tactile footways]</i>	Updated	FGM
6	Pricing		
6.4	Private parking charges	None	
6.5	Road user charging	None	
6.1	Vehicle ownership taxes	None	
6.2	Fuel taxes	None	
6.3	Parking charges	Updated	ITS
6.6	Fare levels	Updated	ITS
6.7	Fare structures	Updated	ATU
6.8	Concessionary fares	Updated	ITS
6.9	Integrated ticketing	New entry	ITS

Annex 2: The analysis of synergy

As described in Section 4, the single 6*6 synergy matrix for the six measure categories was replaced by four 12*12 matrices, for 12 specified measure types, with the four matrices reflecting in turn indicators of accessibility, accidents, carbon emissions and delay, which are used as proxies for the longer lists of objectives, problems and indicators used in the individual measure option generator. For each indicator, synergy was calculated for each pair of measures from series of model tests of representative measures using a MARS model (Pfaffenbichler et al 2010) of Leeds. To simplify the modelling task, tests were conducted on eleven individual measures, alone and in pairs, with each selected measure being assumed to represent one of the twelve types of measure in the policy guidebook. This simplification will also mean that further measures can be added without the need for new model-based tests. The package option generator uses the weightings assigned by the user to objectives, problems or indicators, to obtain a weighted value of the four interaction scores for any given pair of measures. This annex describes in more detail the approach adopted.

The 12 types of measure: The first stage in developing the new synergy matrices was to allocate the agreed policy measures to 12 measure types as listed in Table 2. This was done to provide a finer level of detail than provided by the original six categories, while avoiding the need to model each of the 61 measures in conjunction with all the others. Thus, for example, all cycling and walking measures were grouped into one type, whether they were originally listed in the infrastructure, management, behavioural or information category.

Table 2: Allocation of measures in KonSULT to 12 types

Type	Measures
Land use	Development density and mix; developer contributions; land use to support public transport
Awareness and smarter choices	School travel plans; company travel plans; personalised journey planning; trip planning systems; promotional activities; car clubs; ride sharing; flexible working hours; telecommunications; park and ride; high occupancy vehicle lanes
Private infrastructure	New road construction; road maintenance; off street parking
Public infrastructure	New rail stations and lines; new rail services; light rail; bus rapid transit; terminals and interchanges
Freight	Lorry parks; freight transshipment; lorry routes and bans; road freight fleet management systems
Private management	Conventional traffic management ; conventional signs and markings; urban traffic control; intelligent transport systems; variable message signs; in vehicle guidance systems; parking guidance systems
Cycling and walking	Cycle networks; segregated cycle facilities; cycle parking and storage; bike sharing; pedestrian areas and routes; pedestrian crossing facilities; barrier free mobility
Public transport management	Real time passenger information; conventional timetable and service information; bus regulation; bus services; bus fleet management systems; bus priorities; demand responsive transport; crowd sourcing
Restraint	Physical restrictions; parking controls; regulatory restrictions; parking standards
Pricing	Road user charging; vehicle ownership taxes; fuel taxes; parking charges; private parking charges

Fares	Fare structures; fare levels; integrated ticketing; concessionary fares
Safety and environment	Accident remedial measures; traffic calming measures; promoting low carbon vehicles; low emission zones

The 11 model tests: Where possible, each of these 12 measure types was modelled, using the MARS model of Leeds. Table 3 indicates the measures tested in MARS for each of the measure types. It is important to note that there are two measure types (freight and (non-fiscal) restraint) for which there is no modelled representative measure, and two (awareness and pricing) where there are two alternative representative measures. For the former synergy values were estimated judgmentally based on the other results. For the latter the two results were compared in determining appropriate synergy values.

Table 3: The MARS measure tests

Type	Measures	MARS measure
Land use	Development density and mix; developer contributions; land use to support public transport	Land use compact city
Awareness and smarter choices	School travel plans; company travel plans; personalised journey planning; trip planning systems; promotional activities; car clubs; ride sharing; flexible working hours; telecommunications; park and ride; high occupancy vehicle lanes	PT Awareness or telework 5%
Private infrastructure	New roads; road maintenance; off street parking	Road capacity +10%
Public infrastructure	New rail stations and lines; new rail services; light rail; bus rapid transit; terminals and interchanges	Bus lanes 50% coverage with 10% reduction in capacity
Freight	Lorry parks; freight transshipment; lorry routes and bans; road freight fleet management systems	Not modelled
Private management	Conventional traffic management ; conventional signs and markings; urban traffic control; intelligent transport systems; variable message signs; in vehicle guidance systems; parking guidance systems	Road capacity +10%
Cycling and walking	Cycle networks; segregated cycle facilities; cycle parking and storage; bike sharing; pedestrian areas and routes; pedestrian crossing facilities; barrier free mobility	Walk and cycle perceived distance -20%
Public transport management	Real time passenger information; conventional timetable and service information; bus regulation; bus services; bus fleet management systems; bus priorities; demand responsive transport; crowd sourcing	Bus Freq +100%
Restraint	Physical restrictions; parking controls; regulatory restrictions; parking standards	not modelled

Pricing	Road user charging; vehicle ownership taxes; fuel taxes; parking charges; private parking charges	Fuel Tax +100% or Distance based charge 10 cent/km
Fares	Fare structures; fare levels; integrated ticketing; concessionary fares	Fares -50%
Safety and environment	Accident remedial measures; traffic calming measures; promoting low carbon vehicles; low emission zones	Road capacity - 10%

The tests conducted: Each of these 11 measures was tested in the range from zero change to the maximum specified (except for the compact city, where only one level of intervention was tested). The relationships between each of the four indicators (accessibility, accidents, carbon emissions and delay) and intensity of each measure were broadly linear. The percentage change from the base was then calculated for each indicator for the maximum value of each measure. Tests were then conducted for each pair of measures, with each applied at its maximum value. For each pair of measures (x, y) synergy was defined as

$$C_{xy} - S_{xy}$$

where C_{xy} is the percentage change from the base for a given indicator for the pair of measures (x, y) tested together

and S_{xy} is the sum of the percentage changes from the base for x and y tested separately.

The ranges of percentage changes from the base for C_{xy} were:

- accessibility: -58.5% to +7.9%;
- delay: -79.8% to +35.8%;
- accidents: -13.4% to +21.0%;
- CO₂ emissions: -11.1% to +12.5%.

It is clear from these that the measures have a greater impact on delay than on the other indicators, and that they have a greater negative than positive effect on accessibility. An absolute synergy score ($C_{xy} - S_{xy}$) will therefore be likely to take a smaller value for CO₂ emissions, improvements in accessibility, and accidents.

The resulting synergy values: The tests give 55 results for each indicator, from the pairwise testing of the eleven measures. The results for the four indicators are shown from Table 4 to Table 7, using the definition of $C_{xy} - S_{xy}$ given above.

Table 4: Synergy values for accessibility

Synergy Scores	Access											
	Rcap+10%	RUCharge 10c/km	Walk/cycle max	Telework 5%	Fuel tax +100%	Fares-50%	PT aware	Bus Freq100	Compact city	bus lanes	Rcap-10%	
Rcap+10%												
RUCharge 10c/km	-0.03%											
Walk/cycle max	0.19%	-0.26%										
Telework 5%	0.11%	0.65%	0.29%									
Fuel tax +100%	-0.02%	15.54%	-0.09%	0.35%								
Fares-50%	0.07%	-0.20%	0.04%	0.06%	-0.10%							
PT aware	-0.03%	7.62%	-0.07%	0.15%	4.21%	-0.06%						
Bus Freq100	0.04%	-0.04%	0.06%	0.06%	-0.01%	1.36%	-0.01%					
Compact city	-0.01%	0.22%	0.01%	0.00%	0.12%	0.04%	0.06%	0.02%				
bus lanes	0.90%	0.58%	0.10%	-0.03%	0.31%	0.07%	0.17%	0.00%	-0.01%			
Rcap-10%	-0.12%	-0.03%	-0.27%	-0.19%	-0.02%	-0.07%	0.02%	-0.05%	-0.01%	0.04%		

Table 5: Synergy values for delay

Synergy Scores	Delay											
	Rcap+10%	RUCharge 10c/km	Walk/cycle max	Telework 5%	Fuel tax +100%	Fares-50%	PT aware	Bus Freq100	Compact city	bus lanes	Rcap-10%	
Rcap+10%												
RUCharge 10c/km	-3.71%											
Walk/cycle max	-3.61%	-0.13%										
Telework 5%	-3.09%	-1.97%	-1.95%									
Fuel tax +100%	-1.82%	-2.02%	0.01%	-0.97%								
Fares-50%	-1.38%	0.12%	-1.25%	-0.85%	0.07%							
PT aware	-0.76%	-0.86%	0.01%	-0.42%	-0.45%	0.05%						
Bus Freq100	-0.61%	0.05%	-0.55%	-0.38%	0.03%	0.50%	0.02%					
Compact city	-0.32%	-0.31%	0.02%	-0.18%	-0.15%	0.00%	-0.06%	-0.04%				
bus lanes	6.45%	5.02%	4.15%	3.58%	2.43%	3.01%	1.04%	0.96%	0.45%			
Rcap-10%	11.08%	5.21%	5.45%	4.48%	2.52%	1.98%	1.07%	0.88%	0.49%	-15.06%		

Table 6: Synergy values for accidents

Synergy Scores	Accident											
	Rcap+10%	RUCharge 10c/km	Walk/cycle max	Telework 5%	Fuel tax +100%	Fares-50%	PT aware	Bus Freq100	Compact city	bus lanes	Rcap-10%	
Rcap+10%												
RUCharge 10c/km	1.97%											
Walk/cycle max	1.25%	1.36%										
Telework 5%	0.70%	1.05%	0.86%									
Fuel tax +100%	0.98%	-0.40%	0.64%	0.51%								
Fares-50%	0.50%	0.53%	0.25%	0.25%	0.23%							
PT aware	0.44%	-0.19%	0.30%	0.24%	-0.10%	0.12%						
Bus Freq100	0.25%	0.39%	0.26%	0.22%	0.18%	0.30%	0.08%					
Compact city	0.22%	0.12%	0.09%	0.12%	0.04%	0.08%	0.02%	0.03%				
bus lanes	0.88%	-1.68%	-0.51%	-0.19%	-0.82%	-0.72%	-0.37%	-0.27%	-0.14%			
Rcap-10%	-2.18%	-2.18%	-1.44%	-0.74%	-1.06%	-0.54%	-0.48%	-0.28%	-0.24%	1.61%		

Table 7: Synergy values for CO₂

Synergy Scores	Co2											
	Rcap+10%	RUCharge 10c/km	Walk/cycle max	Telework 5%	Fuel tax +100%	Fares-50%	PT aware	Bus Freq100	Compact city	bus lanes	Rcap-10%	
Rcap+10%												
RUCharge 10c/km	0.36%											
Walk/cycle max	0.16%	0.93%										
Telework 5%	0.02%	0.20%	0.21%									
Fuel tax +100%	0.19%	-0.66%	0.48%	0.11%								
Fares-50%	0.04%	0.36%	-0.19%	-0.01%	0.18%							
PT aware	0.09%	-0.30%	0.22%	0.05%	-0.15%	0.08%						
Bus Freq100	0.17%	0.37%	0.11%	0.13%	0.18%	0.40%	0.08%					
Compact city	0.04%	-0.01%	0.04%	0.03%	-0.01%	0.04%	0.00%	0.01%				
bus lanes	0.72%	-0.17%	0.24%	0.13%	-0.10%	0.07%	-0.06%	0.24%	0.01%			
Rcap-10%	-0.13%	-0.48%	-0.22%	-0.03%	-0.26%	-0.06%	-0.12%	-0.25%	-0.04%	0.00%		

Table 8, which presents the distributions of these synergy values, confirms that they do indeed take a smaller value for CO₂ emissions, improvements in accessibility, and accidents. It also indicates much lower levels of synergy for CO₂ emissions, even after allowing for this effect.

Table 8: Numbers of observations in each synergy value band

From		-5	-2	-1	0	+1	+2	+5
To	-5	-2	-1	0	+1	+2	+5	
Accessibility	0	0	0	23	28	1	1	2
Delay	1	4	5	16	15	3	6	5
Accidents	0	2	3	15	30	5	0	0
CO ₂ emissions	0	0	0	19	36	0	0	0

Table 8 suggests that there are eight outliers, with values outside the range -5 to +5. These are:

1. PT awareness and road user charging (giving synergy for accessibility);
2. fuel tax and road user charges (giving synergy for accessibility);
3. bus lanes with reduced road capacity (giving dis-synergy for delay);
4. bus lanes and road user charging (giving synergy for delay);
5. reduced road capacity and road user charging (giving synergy for delay);
6. walking and cycling and road user charging (giving synergy for delay);
7. bus lanes and increased road capacity (giving synergy for delay);
8. reduced road capacity and increased road capacity (giving synergy for delay).

Of these, (2) is a duplication of two alternative measures for the same type, and can be discounted; (8) is a combination of two measure types which are unlikely to be combined; it illustrates the non-linearity of the effects of capacity changes. The other six are reasonable combinations which should be allowed for.

The adopted synergy scores: To maintain reasonable consistency with the treatment of barriers, whose effects were scored in the range -20 to +20, scores were assigned in a similar range based on the values in Table 4 to Table 7. These scores were assigned to the synergy value bands in Table 8 as follows:

Table 9: Synergy value bands

From		-5	-2	-1	-0.5	0	+0.5	+1	+2	+5
To	-5	-2	-1	-0.5	0	+0.5	+1	+2	+5	
Suggested score	-20	-15	-10	-5	0	0	+5	+10	+15	+20

Table 10 to Table 13 shows the resulting scores. Those in *italic* are estimates for un-modelled measure types. An asterisk indicates a score for which the different example measures gave different scores; that shown is the best judgment of the appropriate value.

Table 10: Synergy scores for accessibility

	LU	Aw	Prl	Pul	Ft	PrM	C&W	PTM	Rest	Pric	Fare	S&E
LU	0											
Aw	0	0										
Prl	0	0	0									
Pul	0	0	+5	0								
<i>Ft</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	0							
PrM	0	0	0	+5	<i>0</i>	0						
C&W	0	0	0	+5	<i>0</i>	0	0					
PTM	0	0	0	0	<i>0</i>	0	0	0				
<i>Rest</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	0			
Pric	0	+15*	0	+5*	<i>0</i>	0	0	0	<i>0</i>	0		
Fare	0	0	0	0	<i>0</i>	0	0	+10	<i>0</i>	0	0	
S&E	0	0	0	0	<i>0</i>	0	0	0	<i>0</i>	0	0	0

Table 11: Synergy scores for delay

	LU	Aw	Prl	Pul	Ft	PrM	C&W	PTM	Rest	Pric	Fare	S&E
LU	0											
Aw	0	0										
Prl	0	-10*	0									
Pul	0	+10*	+20	0								
<i>Ft</i>	<i>0</i>	<i>-10</i>	<i>0</i>	<i>+15</i>	0							
PrM	0	-10*	0	+20	+5	0						
C&W	0	-5*	-15	+15	-10	-15	0					
PTM	0	0	-5	+5	-5	-5	-5	0				
<i>Rest</i>	<i>0</i>	<i>+10</i>	<i>+15</i>	<i>-15</i>	<i>+15</i>	<i>+15</i>	<i>+15</i>	-5	0			
Pric	0	-5*	-15*	+15*	-10	-15*	0	0	-15	0		
Fare	0	-5*	-10	+15	-5	-10	-10	+5	+15	0	0	
S&E	0	+10*	+20	-20	+15	+20	+20	+5	+10	+15*	+10	0

Table 12: Synergy scores for accidents

	LU	Aw	PrI	PuI	Ft	PrM	C&W	PTM	Rest	Pric	Fare	S&E
LU	0											
Aw	0	0										
PrI	0	+5*	0									
PuI	0	0	+5	0								
Ft	0	+5	+5	+5	0							
PrM	0	+5*	0	+5	+5	0						
C&W	0	+5*	+10	-5	+5	+10	0					
PTM	0	0	0	-5	0	0	0	0				
Rest	0	-5	-15	+10	-10	-15	-10	0	0			
Pric	0	+5*	+10*	-10*	-5	+10*	+10*	0	-15	0		
Fare	0	0	+5	-5	-5	+5	0	0	-5	+5*	0	
S&E	0	-5*	-15	+10	-5	-15	-10	0	0	-15*	-5	0

Table 13: Synergy scores for CO₂

	LU	Aw	PrI	PuI	Ft	PrM	C&W	PTM	Rest	Pric	Fare	S&E
LU	0											
Aw	0	0										
PrI	0	0	0									
PuI	0	0	+5	0								
Ft	0	0	0	+5	0							
PrM	0	0	0	+5	0	0						
C&W	0	0	0	0	0	0	0					
PTM	0	0	0	0	0	0	0	0				
Rest	0	0	0	0	0	0	0	0	0			
Pric	0	0	0	0	0	0	+5*	0	0	0		
Fare	0	0	0	0	0	0	0	0	0	0	0	
S&E	0	0	0	0	0	0	0	0	0	0	0	0

The application of the synergy scores: Where a pair of measures (x,y) is being considered (under complementary measures or as a package of two) the resulting score is

$$\text{Score}_{xy} = \text{Score}_x + \text{Score}_y + \text{Syn}_{xy}$$

where Syn_{xy} is the synergy score for the pair of measure types of which x and y are members, as given in Table 10 to Table 13.

For packages of three, four or five measures, the score is the sum of the individual scores plus the sum of the synergy scores for each pair of measures. Thus for a package of three there are three individual scores and three synergy scores; for a package of four, four individual scores and six synergy scores and for a package of five, five individual scores and ten synergy scores.

However, we now have four synergy scores, one for each indicator. The resultant synergy score is a weighted value of these four scores, with the weight dependent on the weights given by the user to different objectives (or problems or indicators). Thus:

$$\text{Syn}_{xy} = \sum W_a \text{Syn}_{xya}$$

where W_a is the weight given to indicator a by the user normalised so that $\sum W_a = 1$, and Syn_{xya} is the synergy score for measures x and y for indicator a . This requires a one to one relationship between the objectives or problems or indicators as considered by the user, and the four indicators used for the synergy matrices.

Relationships between indicators, objectives and problems: As noted above, the algorithm will need to correlate any objective, problem or indicator chosen by the user with one of the four indicators for which synergy matrices have been proposed above. Table 14 shows the one to one relationships.

Table 14: One to one relationships between user-specified objectives, problems and indicators and the four indicators reflected in Table 10 to Table 13

Indicator	Objectives covered	Problems covered	Indicators covered
Accessibility	Equity Economy	Poor accessibility Social and geographic disadvantage Economic growth	Accessibility Average journey cost Regional GDP
Delay	Efficiency Finance	Congestion	Congestion Bus reliability
Accidents	Liveability Safety	Community impacts Accidents	Easy and safe to walk Safety
CO ₂ emissions	Environment	Environmental damage	CO ₂ emissions Local pollution Energy efficiency

Annex 3: The proforma for cities' tests of KonSULT



ADDRESSING KEY CHALLENGES OF SUSTAINABLE URBAN MOBILITY PLANNING

Template for reporting on development of your measure catalogue

Dear CH4 Partner

As part of Workpackage 4, this is an exercise running from 4th December 2014 to 5th February 2015 in which each partner city creates a measure catalogue for its city using the KonSULT tool. Taking account of your city's transport priorities and context, KonSULT will suggest measures, and packages of measures, which might be appropriate for implementation as part of your SUMP.

There are two aims of this exercise:

- (i) The measure catalogue you generate could give you new insights and ideas about measures which could be implemented in your city [please note the measure catalogue is just a list of suggestions for you to consider, and not a list of measures that *should* be used].
- (ii) Your experience of developing the measure catalogue can help determine whether or what further changes could usefully be made to KonSULT.

On the next pages, you will find a template which will enable you to complete your input to this exercise. It asks you to note the lists and packages of measures you generate using KonSULT; describe your experience of using KonSULT, and to outline your initial assessment of your resulting measure catalogue. We (ITS) will collate answers from each city to form Deliverable 4.2.

We hope the information provided on the updated KonSULT option generator website, will enable you to work through each step of the process of generating lists and packages of measures to form a measure catalogue. A few further notes are given throughout this template. Please use this template to report on the development of your catalogue. Please try to complete each part of the template, and feel free to write as much or as little as you like.

If you have any queries at any point, please contact Dr Caroline Mullen:
c.a.mullen@leeds.ac.uk

A. Developing a measure catalogue via KonSULT

You can find the KonSULT tool at <http://www.konsult.leeds.ac.uk>. We suggest that you focus on the Measure Option Generator (the top tab on the left hand side of the home page). However you may wish to look at the Policy Guidebook or the Decision-Makers' Guidebook. There are links to further information on using all of these on the home page.

We suggest that you experiment with the KonSULT tool to see the different methods of generating measure and package options, and to find the approach(es) that you think most useful. You will find guidance notes within the website which explain what you can do, and how KonSULT generates the suggestions which it makes.

I. First please enter the Measure Option Generator and use KonSULT to generate one or more lists of measures. You can generate a list which takes account of *either* your city's objectives, problems or indicators. You can consider your whole city or focus on a particular part of it. If you wish, you can identify measures which contribute to a specific strategy.

Please specify each list in the format indicated below. You can add one or more lists – ***please number each list (list 1; list 2 etc.):***

- i. Note the 'area type' you chose
- ii. Note the objectives or problems or indicators, and the importance that each is given
 e.g. Objectives:
 Safety [1];
 Economic growth [3];
 Protection of the environment [3];
 Liveable streets [5]
- iii. Note the strategies you chose and the importance that each is given (or note if you chose 'any strategy')
- iv. Note the list of measures you generate

You can find out more about any of the measures by clicking on it. This will take you straight to the relevant entry in the Policy Guidebook.

2. Packaging measures. Beginning with each list of measures, please generate some packages (you can get to the packaging pages by clicking the 'package option generator' button above the list of measures). The package option generator allows you to choose whether to seek measures which complement a given policy measure, or to create packages of up to five measures from a chosen list. To simplify the latter, only 10 measures can be shortlisted. In either case you can choose measures which help overcome barriers to implementation, or ones which reinforce each other (by creating synergy).

Please specify each package in the format indicated below (again you can add one or more packages).

In each case please specify which list of measures is used to generate the package i.e. list 1; list 2...; and please number the packages so that you have, for instance list 1, package 1; list 1 package 2; list 2, package 3)

- i. Note whether you chose 'complementary measures' or 'packages'
- ii. If you chose complementary measures:
 - a. Please specify the single measure for which you wanted to identify complementary measures
 - b. Note whether you chose 'barrier' or 'synergy'
 - c. Please note the ranked combinations
- iii. If you chose packages:
 - a. Note whether you chose 'barrier' or 'synergy'
 - b. Please note the measures that you chose to consider and the size of the package
 - c. Please note the ranked packages

B. Assessing the lists of measures and packages of measures

We would like you to critically assess the measures and packages that you have generated using KonSULT. Please try to respond to each point giving as much or as little detail as you think appropriate.

1. For each list of measures, please comment on the following points (please clearly say which list you are referring to, e.g. list 1; list 2):

- i. Does the list include measures you have already adopted –if so please specify which measures.
 - a. If so, does the detailed information KonSULT gives about the measure in the Policy Guidebook add to your understanding of the measure?
 - b. Does the detailed information KonSULT gives about the measure in the Policy Guidebook differ from your experience of the measure – if so, please say how.
- ii. Does the list include any measures which you are already considering - if so please specify which measures.
 - a. If so, does the detailed information KonSULT gives about the measure in the Policy Guidebook add to your understanding of the measure?
 - b. Does the detailed information KonSULT gives about the measure in the Policy Guidebook conflict with your expectations of the measure – if so, please say how.
- iii. Does the list include measures which you had not previously considered adopting, but which you might now consider adopting? If so, please say which measures.
 - a. Please outline why you might now consider them.

- iv. Does the list include any measures which you would not consider - if so please specify which measures.
 - a. Please say why these measures would not be considered
 - b. Does the detailed information KonSULT gives about the measure in the Policy Guidebook differ from your experience of the measure – if so, please say how.

2. For each package of measures, please comment on the following points as applicable (please clearly say which list you are referring to, e.g. package 1; package 2):

- i. Have you already implemented all of this package of measures?
 - a. If so, does the detailed information KonSULT gives about the measures in the package add to your understanding of the package?
 - b. Does the detailed information KonSULT gives about the measures in the package differ from your experience – if so, please say how.
- ii. Have you already implemented part of this package of measures?
 - a. If so, does the detailed information KonSULT gives about the measures in the package help you to make this package more effective?
 - b. Does the detailed information KonSULT gives about the measures in the package differ from your experience or expectations – if so, please say how.
- iii. Are you already considering this package?
 - a. If so, does KonSULT add to your understanding of the package?
 - b. Does the information KonSULT gives about the measures in the package differ from your expectations– if so, please say how.
- iv. Is the package one which you had not considered implementing, but which you might consider now?
 - a. If so, please outline why you might now consider it.
- v. Is the package one which you would not consider?
 - a. If so, please say why
 - b. Does the information KonSULT gives differ from your understanding of the measures in the package – if so, please say how.

. For each list of complementary measures, please comment on the following points as applicable (please clearly say which list you are referring to, e.g. package 1; package 2):

- i. Have you already implemented all of this list of measures?
 - a. If so, does the detailed information KonSULT gives about the measures add to your understanding of their ability to complement your specified measure?

- b. Does the detailed information KonSULT gives about the measures in the list differ from your experience – if so, please say how.
- ii. Have you already implemented part of this list of measures?
 - a. If so, does the detailed information KonSULT gives about the measures in the list help you to complement your chosen measure more effectively?
 - b. Does the detailed information KonSULT gives about the measures in the list differ from your experience or expectations – if so, please say how.
- iii. Are you already considering this list of measures?
 - a. If so, does KonSULT add to your understanding of these measures?
 - b. Does the information KonSULT gives about the measures differ from your expectations– if so, please say how.
- iv. Is the list of measures one which you had not considered implementing, but which you might consider now?
 - a. If so, please outline why you might now consider it.
- v. Is the list of measures one which you would not consider?
 - a. If so, please say why
 - b. Does the information KonSULT gives differ from your understanding of the package – if so, please say how.

C. Shortlisting measures and packages

a. Of your lists of measures, please note one or two *lists* which you would most like to consider implementing. In making your choice please note that it does not matter whether the list contains measures you have already implemented, or are already considering implementing.

b. Please note the *individual* measures in this list/ these lists which you may consider implementing. You might include measures already implemented or those which you are already considering implementing. **Please say briefly why you have chosen these.**

The following questions apply only to those measures which you have shortlisted but **not** already implemented

- a. Are you aware of what the public, or sections of the public, might think about the measures (for instance, would they support the measures; would there be opposition?)
- b. How might you test whether there is public support for the measures?
- c. Would implementing the measures require cooperation of more than one institution (for instance, would it require two local authorities to agree)?
- d. If the answer to (c) is yes, please note what this cooperation would involve.

c. Of your packages, please note one or two which you would most like to consider implementing. **Please say briefly why you have chosen these.** Please include at least one package which you have not already implemented, or have already been considering implementing.

- a. Are you aware of what the public, or sections of the public, might think about the package(s) chosen?
- b. How might you test whether there is public support for the package(s)
- c. Would implementing the package(s) require cooperation of more than one institution (for instance, would it require two local authorities to agree?)?
- d. If the answer to (c) is yes, please note what this cooperation would involve.

D. Comments on the website

Please let us have your comments on the ease with which you were able to use the website, and its attractiveness. Are there improvements which you think that we should make?

In using the Policy Guidebook, were there case studies of particular measures that you think we could usefully include? If so, please let us have details.

Annex 4: Test report from Amiens

A. Developing a measure catalogue via KonSULT

You can find the KonSULT tool at <http://www.konsult.leeds.ac.uk>. We suggest that you focus on the Measure Option Generator (the top tab on the left hand side of the home page). However you may wish to look at the Policy Guidebook or the Decision-Makers' Guidebook. There are links to further information on using all of these on the home page.

We suggest that you experiment with the KonSULT tool to see the different methods of generating measure and package options, and to find the approach(es) that you think most useful. You will find guidance notes within the website which explain what you can do, and how KonSULT generates the suggestions which it makes.

I. First please enter the Measure Option Generator and use KonSULT to generate one or more lists of measures. You can generate a list which takes account of *either* your city's objectives, problems or indicators. You can consider your whole city or focus on a particular part of it. If you wish, you can identify measures which contribute to a specific strategy.

Please specify each list in the format indicated below. You can add one or more lists – ***please number each list (list 1; list 2 etc.):***

Amiens list 1

- v. Note the 'area type' you chose **any area type**
- vi. Note the objectives or problems or indicators, and the importance that each is given
e.g. Objectives:
objectives:
 - Efficiency [4]
 - Liveable streets [5]
 - Protection of the environment [4]
 - Equity and social inclusion [5]
 - Safety [3];
 - Economic growth [3];
 - Finance [4]
- vii. Note the strategies you chose and the importance that each is given (or note if you chose 'any strategy')
 - Reducing the need to travel [1]
 - Reducing car use [5]
 - Improving the use of road space [4]
 - Improving the use of Public Transport [5]
 - Improving the use of walking and cycling [4]
 - Improving freight [2]
- viii. Note the list of measures you generate

rank	code	category	cost	timescale	measure	score
1	605	Pricing	neutral	medium	Road user charging	47
2	102	Land Use Measures	neutral	long	Land use to support public transport	34

rank	code	category	cost	timescale	measure	score
3	209	Infrastructure	medium	medium	Pedestrian areas & routes	27
4	101	Land Use Measures	high	long	Development density and mix	27
5	309	Management and service measures	low	short	Regulatory restrictions	24
6	603	Pricing	neutral	short	Parking charges	22
7	305	Management and service measures	medium	short	Accident remedial measures	22
8	404	Attitudinal and behavioural measures	low	short	School travel plans	20
9	103	Land Use Measures	low	long	Parking standards	20
10	208	Infrastructure	medium	medium	Cycle networks	19
11	311	Management and service measures	low	short	Parking controls	18
12	403	Attitudinal and behavioural measures	low	short	Company travel plans	17
13	304	Management and service measures	medium	medium	Intelligent transport systems	17
14	401	Attitudinal and behavioural measures	low	short	Promotional activities	17
15	317	Management and service measures	neutral	medium	Bus regulation	17
16	407	Attitudinal and behavioural measures	medium	medium	Bike sharing	16
17	204	Infrastructure	high	medium	New rail stations and lines	14
18	601	Pricing	neutral	short	Vehicle ownership taxes	13
19	318	Management and service measures	medium	short	Segregated cycle facilities	13
20	609	Pricing	low	medium	Integrated ticketing	13
21	314	Management and service measures	low	short	Bus priorities	12
22	604	Pricing	neutral	medium	Private parking charges	12
23	205	Infrastructure	medium	medium	Bus rapid transit	12
24	402	Attitudinal and behavioural measures	low	short	Personalised journey planning	11
25	602	Pricing	neutral	short	Fuel taxes	11

You can find out more about any of the measures by clicking on it. This will take you straight to the relevant entry in the Policy Guidebook.

2. Packaging measures. Beginning with each list of measures, please generate some packages (you can get to the packaging pages by clicking the 'package option generator' button above the list of measures). The package option generator allows you to choose whether to seek measures which complement a given policy measure, or to create packages of up to five measures from a chosen list. To simplify the latter, only 10 measures can be shortlisted. In either case you can choose measures which help overcome barriers to implementation, or ones which reinforce each other (by creating synergy).

Please specify each package in the format indicated below (again you can add one or more packages).

In each case please specify which list of measures is used to generate the package i.e. list 1; list 2...; and please number the packages so that you have, for instance list 1, package 1; list 1 package 2; list 2, package 3)

List 1, package 1

- iv. Note whether you chose 'complementary measures' or 'packages'
complementary measures
- v. If you chose complementary measures:
 - a. Please specify the single measure for which you wanted to identify complementary measures
rank 21: Management and service measures – bus priorities
 - b. Note whether you chose 'barrier' or 'synergy'
Synergy
 - c. Please note the ranked combinations

Rank	Measure1	Measure2	Total
1	Bus priorities	Road user charging	30
2	Bus priorities	Land use to support public transport	23
3	Bus priorities	Development density and mix	19
4	Bus priorities	Pedestrian areas & routes	19
5	Bus priorities	Accident remedial measures	17
6	Bus priorities	Parking charges	17
7	Bus priorities	Regulatory restrictions	17
8	Bus priorities	School travel plans	16
9	Bus priorities	Parking standards	16
10	Bus priorities	Cycle networks	15

B. Assessing the lists of measures and packages of measures

We would like you to critically assess the measures and packages that you have generated using KonSULT. Please try to respond to each point giving as much or as little detail as you think appropriate.

1. For each list of measures, please comment on the following points (please clearly say which list you are referring to, e.g. list 1; list 2):

- v. Does the list include measures you have already adopted –if so please specify which measures.

List 1: 38 of 61 KonSULT measures are included in the SUMP of Amiens

- a. If so, does the detailed information KonSULT gives about the measure in the Policy Guidebook add to your understanding of the measure?
Yes, KonSULT gives valuable information. The Policy Guidebook helps the user to understand each measure to be considered.
 - b. Does the detailed information KonSULT gives about the measure in the Policy Guidebook differ from your experience of the measure – if so, please say how.
No, it doesn't differ from our experience.
- vi. Does the list include any measures which you are already considering - if so please specify which measures. The list contains the following measures that are under consideration for our town. The measures are:
- Land use to support public transport
 - Development density and mix
 - Pedestrian areas & routes
 - Parking charges
 - Regulatory restrictions
 - School travel plans
 - Cycle networks
- a. If so, does the detailed information KonSULT gives about the measure in the Policy Guidebook add to your understanding of the measure? Yes, the Policy Guidebook gives detailed additional information on the measures and on the relevance of such measure.
 - b. Does the detailed information KonSULT gives about the measure in the Policy Guidebook conflict with your expectations of the measure – if so, please say how.
The KonSULT measure generator matched very closely the measures identified and already adopted in Amiens.
- vii. Does the list include measures which you had not previously considered adopting, but which you might now consider adopting? If so, please say which measures. No, there is no additional measure which we take into consideration currently. As a reminder, the Amiens SUMP was adopted in December 2013 and some measures and actions were already targeted or implemented. However, the relevance and ranking of some measures are interesting and could lead to further development of the SUMP.
- a. Please outline why you might now consider them.
- viii. Does the list include any measures which you would not consider - if so please specify which measures.
The following measures are not considered by Amiens Métropole: Road user charging, New rail station and lines, vehicle ownership taxes, fuel taxes
- a. Please say why these measures would not be considered
These measures are not under consideration as they are no unsuitable considering the size of the city, because they are implemented at a national level, or because of the stringent economic conditions which do not allow the implementation of such measures.
 - b. Does the detailed information KonSULT gives about the measure in the Policy Guidebook differ from your experience of the measure – if so, please say how.
The KonSULT measure generator matches closely our experience with the measure.

2. For each package of measures, please comment on the following points as applicable (please clearly say which list you are referring to, e.g. package 1; package 2):

The following information deals with List 1 and Package 1.

- vi. Have you already implemented all of this package of measures?
No
 - a. If so, does the detailed information KonSULT gives about the measures in the package add to your understanding of the package?
 - b. Does the detailed information KonSULT gives about the measures in the package differ from your experience – if so, please say how.
- vii. Have you already implemented part of this package of measures?
Yes, some activities have been implemented or will be put in place for the years to come.
 - a. If so, does the detailed information KonSULT gives about the measures in the package help you to make this package more effective?
Indeed, the detailed information brings a lot to our understanding and provides interesting piece of information for the implementation of the measure.
 - b. Does the detailed information KonSULT gives about the measures in the package differ from your experience or expectations – if so, please say how.
The KonSULT measure generator matches closely our experience with the measure.
- viii. Are you already considering this package?
Yes we do.
 - a. If so, does KonSULT add to your understanding of the package?
Yes.
 - b. Does the information KonSULT gives about the measures in the package differ from your expectations– if so, please say how.
No, not really.
- ix. Is the package one which you had not considered implementing, but which you might consider now?
 - a. If so, please outline why you might now consider it.
- x. Is the package one which you would not consider?
 - a. If so, please say why
 - b. Does the information KonSULT gives differ from your understanding of the measures in the package – if so, please say how.

C. Shortlisting measures and packages

a. Of your lists of measures, please note one or two *lists* which you would most like to consider implementing. In making your choice please note that it does not matter whether the list contains measures you have already implemented, or are already considering implementing.

b. Please note the *individual* measures in this list/ these lists which you may consider implementing. You might include measures already implemented or those which you are already considering implementing. **Please say briefly why you have chosen these.**

Following is the list of measures we may consider to implement:

- Land use to support public transport
- Development density and mix
- Pedestrian areas & routes
- Parking charges
- Regulatory restrictions
- School travel plans
- Cycle networks

The above mentioned measures were selected as they are fully part of the catalog of measures of the SUMP of Amiens, approved in December 2013. These measures were already implemented or will be implemented within the next 10 years.

The following questions apply only to those measures which you have shortlisted but **not** already implemented

- e. Are you aware of what the public, or sections of the public, might think about the measures (for instance, would they support the measures; would there be opposition?)

It is always hard to imagine the public reaction and feedback after the implementation of some activities. However, our local experience underlines that some measures remain unpopular. Thus, it seems to be hard to implement such measures (parking charges / regulatory restrictions). We can mention a certain resistance to change.

- f. How might you test whether there is public support for the measures?

Before the implementation across the city, a test on a smaller area can be considered.

- g. Would implementing the measures require cooperation of more than one institution (for instance, would it require two local authorities to agree)?

Yes

- h. If the answer to (c) is yes, please note what this cooperation would involve.

The cooperation will consist mainly in a close work between institutions which were also members of the Steering Committee during the SUMP elaboration stage. The decision to include these measures in the final document of the SUMP was taken jointly.

c. Of your packages, please note one or two which you would most like to consider implementing. **Please say briefly why you have chosen these.** Please include at least one package which you have not already implemented, or have already been considering implementing.

- e. Are you aware of what the public, or sections of the public, might think about the package(s) chosen?
- f. How might you test whether there is public support for the package(s)
- g. Would implementing the package(s) require cooperation of more than one institution (for instance, would it require two local authorities to agree?)?
- h. If the answer to (c) is yes, please note what this cooperation would involve.

D. Comments on the website

Please let us have your comments on the ease with which you were able to use the website, and its attractiveness. Are there improvements which you think that we should make?

We experienced an easy and quite intuitive use of the website. However, we can point out that KonSULT is not addressing novices but specialists or people with high interest and knowledge in the field of SUMP. Nevertheless, the step-by-step explanations on “how to use the website” are really relevant.

The measure catalog provides useful information about the definition and the content of the measures, which is particularly relevant for a non-native English speaker. Although it was well documented, it was relevant to make the exercise ourselves by combining objectives and barriers. Finally, an added value would be to get more explanations on the meaning of the scores. It could also be very interesting to illustrate the catalog of measures with concrete examples of towns that already implemented the concerned measure.

Annex 5: Test report from Brno

A. Developing a measure catalogue via KonSULT

You can find the KonSULT tool at <http://www.konsult.leeds.ac.uk>. We suggest that you focus on the Measure Option Generator (the top tab on the left hand side of the home page). However you may wish to look at the Policy Guidebook or the Decision-Makers' Guidebook. There are links to further information on using all of these on the home page.

We suggest that you experiment with the KonSULT tool to see the different methods of generating measure and package options, and to find the approach(es) that you think most useful. You will find guidance notes within the website which explain what you can do, and how KonSULT generates the suggestions which it makes.

I. First please enter the Measure Option Generator and use KonSULT to generate one or more lists of measures. You can generate a list which takes account of *either* your city's objectives, problems or indicators. You can consider your whole city or focus on a particular part of it. If you wish, you can identify measures which contribute to a specific strategy.

Please specify each list in the format indicated below. You can add one or more lists – ***please number each list (list 1; list 2 etc.):***

- ix. Note the 'area type' you chose
city centre
- x. Note the objectives or problems or indicators, and the importance that each is given
e.g. Objectives:
Safety [4];
Finance [2]
Liveable streets [5]
- xi. Note the strategies you chose and the importance that each is given (or note if you chose 'any strategy')
Reducing Car Use [3]
Improving the Use of Public Transport [4]
Improving walking and cycling [5]
- xii. Note the list of measures you generate

	Measure	Score
1	Land use to support public transport	47
2	Road user charging	46
3	Pedestrian areas & routes	44
4	School travel plans	32
5	Cycle networks	27
6	Development density and mix	27
7	Accident remedial measures	27
8	Regulatory restrictions	24
9	Parking charges	22
10	Bike sharing	21
11	Segregated cycle facilities	20
12	Parking standards	17

13	Fuel taxes	16
14	Pedestrian crossing facilities	15
15	Parking controls	15
16	Barrier-free mobility	14
17	Private parking charges	14
18	Vehicle ownership taxes	14
19	Promotional activities	13
20	Bus regulation	

You can find out more about any of the measures by clicking on it. This will take you straight to the relevant entry in the Policy Guidebook.

2. Packaging measures. Beginning with each list of measures, please generate some packages (you can get to the packaging pages by clicking the 'package option generator' button above the list of measures). The package option generator allows you to choose whether to seek measures which complement a given policy measure, or to create packages of up to five measures from a chosen list. To simplify the latter, only 10 measures can be shortlisted. In either case you can choose measures which help overcome barriers to implementation, or ones which reinforce each other (by creating synergy).

Please specify each package in the format indicated below (again you can add one or more packages).

In each case please specify which list of measures is used to generate the package i.e. list 1; list 2...; and please number the packages so that you have, for instance list 1, package 1; list 1 package 2; list 2, package 3)

- vi. Note whether you chose 'complementary measures' or 'packages'
complementary measures
- vii. If you chose complementary measures:
 - a. Please specify the single measure for which you wanted to identify complementary measures

9	603	Pricing	neutral	short	Parking charges
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- b. Note whether you chose 'barrier' or 'synergy'
synergy

- c. Please note the ranked combinations

1	Parking charges	Land use to support public transport	29
2	Parking charges	Pedestrian areas & routes	29
3	Parking charges	Road user charging	23
4	Parking charges	Cycle networks	22
5	Parking charges	School travel plans	21
6	Parking charges	Development density and mix	20
7	Parking charges	Bike sharing	18
8	Parking charges	Pedestrian crossing facilities	18
9	Parking charges	Segregated cycle facilities	18
10	Parking charges	Barrier-free mobility	17
11	Parking charges	Road maintenance	15
12	Parking charges	Accident remedial measures	15
13	Parking charges	Cycle parking & storage	14

14	Parking charges	Parking standards	14
15	Parking charges	Promotional activities	13
16	Parking charges	Intelligent transport systems	13
17	Parking charges	Company travel plans	12
18	Parking charges	Bus regulation	11
19	Parking charges	Integrated ticketing	11
20	Parking charges	Crowd sourcing	11

- viii. If you chose packages:
- Note whether you chose 'barrier' or 'synergy'
 - Please note the measures that you chose to consider and the size of the package
 - Please note the ranked packages

B. Assessing the lists of measures and packages of measures

We would like you to critically assess the measures and packages that you have generated using KonSULT. Please try to respond to each point giving as much or as little detail as you think appropriate.

1. For each list of measures, please comment on the following points (please clearly say which list you are referring to, e.g. list 1; list 2):

- Does the list include measures you have already adopted –if so please specify which measures.
 - If so, does the detailed information KonSULT gives about the measure in the Policy Guidebook add to your understanding of the measure?
yes
 - Does the detailed information KonSULT gives about the measure in the Policy Guidebook differ from your experience of the measure – if so, please say how.
- Does the list include any measures which you are already considering - if so please specify which measures.
 - If so, does the detailed information KonSULT gives about the measure in the Policy Guidebook add to your understanding of the measure?
yes
 - Does the detailed information KonSULT gives about the measure in the Policy Guidebook conflict with your expectations of the measure – if so, please say how.
- Does the list include measures which you had not previously considered adopting, but which you might now consider adopting? If so, please say which measures.
 - Fare structure – it seems to be good way how to spread morning/afternoon peak in public transport and good way how to convince commuters to travel in different time (flexible hours are more about decision of employer but fare structure can be affected by city).**
- Does the list include any measures which you would not consider - if so please specify which measures.
Bus Rapid Transit

- a. Because Brno is trying to avoid bus transport in the city centre (because of the air pollution), our aim is to operate in this area only with trams, trolleybuses (or electro buses). We have dedicated lines for trolleybuses (taxi and cyclist).
- b. Does the detailed information KonSULT gives about the measure in the Policy Guidebook differ from your experience of the measure – if so, please say how.

2. For each package of measures, please comment on the following points as applicable (please clearly say which list you are referring to, e.g. package 1; package 2):

- xi. Have you already implemented all of this package of measures?
 - a. If so, does the detailed information KonSULT gives about the measures in the package add to your understanding of the package?
 - b. Does the detailed information KonSULT gives about the measures in the package differ from your experience – if so, please say how.
- xii. Have you already implemented part of this package of measures?
 - a. If so, does the detailed information KonSULT gives about the measures in the package help you to make this package more effective?
 - b. Does the detailed information KonSULT gives about the measures in the package differ from your experience or expectations – if so, please say how.
- xiii. Are you already considering this package?
 - a. If so, does KonSULT add to your understanding of the package?
 - b. Does the information KonSULT gives about the measures in the package differ from your expectations – if so, please say how.
- xiv. Is the package one which you had not considered implementing, but which you might consider now?
 - a. If so, please outline why you might now consider it.
- xv. Is the package one which you would not consider?
 - a. If so, please say why
 - b. Does the information KonSULT gives differ from your understanding of the measures in the package – if so, please say how.

For each list of complementary measures, please comment on the following points as applicable (please clearly say which list you are referring to, e.g. package 1; package 2):

- vi. Have you already implemented all of this list of measures? **no**
 - a. If so, does the detailed information KonSULT gives about the measures add to your understanding of their ability to complement your specified measure?
 - b. Does the detailed information KonSULT gives about the measures in the list differ from your experience – if so, please say how. **no**
- vii. Have you already implemented part of this list of measures? **yes**
 - a. If so, does the detailed information KonSULT gives about the measures in the list help you to complement your chosen measure more effectively? **not really but**

information in KonSULT can help with the explanation of the measures because measures are described in a clear way.

- b. Does the detailed information KonSULT gives about the measures in the list differ from your experience or expectations – if so, please say how. **no**
- viii. Are you already considering this list of measures?
yes we are considering or implementing some of the measures from list
 - a. If so, does KonSULT add to your understanding of these measures?
not really, information in KonSULT doesn't differ from what we know.
 - b. Does the information KonSULT gives about the measures differ from your expectations– if so, please say how.
- ix. Is the list of measures one which you had not considered implementing, but which you might consider now?
Fare structure – it seems to be good way how to spread morning/afternoon peak in public transport and good way how to convince commuters to travel in different time (flexible hours are more about decision of employer but fare structure can be affected by city).
- x. Is the list of measures one which you would not consider?
Bus Rapid Transit
Because Brno is trying to avoid bus transport in the city centre (because of the air pollution), our aim is to operate in this are only with trams, trolleybuses (or electro buses). We have dedicated lines for trolleybuses (taxi and cyclist).

C. Shortlisting measures and packages

- a. Of your lists of measures, please note one or two *lists* which you would most like to consider implementing. In making your choice please note that it does not matter whether the list contains measures you have already implemented, or are already considering implementing.

Regulatory restrictions

Parking charges

- b. Please note the *individual* measures in this list/ these lists which you may consider implementing. You might include measures already implemented or those which you are already considering implementing. **Please say briefly why you have chosen these.**

City centres are generally also historical centres of the towns, therefore it is not possible to construct new ways/roads/ infrastructure. It seems that the most efficient way how to create liveable street is to implement management measures.

The following questions apply only to those measures which you have shortlisted but **not** already implemented

- i. Are you aware of what the public, or sections of the public, might think about the measures (for instance, would they support the measures; would there be opposition?)
These measures are not popular therefore it is important to explain reasons for their implementation.

- j. How might you test whether there is public support for the measures?
By pilot operation.
 - k. Would implementing the measures require cooperation of more than one institution (for instance, would it require two local authorities to agree)?
Yes.
 - l. If the answer to (c) is yes, please note what this cooperation would involve.
Municipality, City Districts, Police,
- c. Of your packages, please note one or two which you would most like to consider implementing. **Please say briefly why you have chosen these.** Please include at least one package which you have not already implemented, or have already been considering implementing.
- i. Are you aware of what the public, or sections of the public, might think about the package(s) chosen?
 - j. How might you test whether there is public support for the package(s)
 - k. Would implementing the package(s) require cooperation of more than one institution (for instance, would it require two local authorities to agree?)?
 - l. If the answer to (c) is yes, please note what this cooperation would involve.

D. Comments on the website

Please let us have your comments on the ease with which you were able to use the website, and its attractiveness. Are there improvements which you think that we should make?

Just one remark, it wasn't clear to me that I can choose only one from objectives, problems or indicators. E.g. I thought that I can choose objectives and problems we having....

In using the Policy Guidebook, were there case studies of particular measures that you think we could usefully include? If so, please let us have details.

Annex 6: Test report from Budapest

[longer tables have been abridged; the full version is available from the authors]

The draft version of Balázs Mór Plan (BMT), the first Sustainable Urban Mobility Plan of Budapest was approved by the General Assembly of Budapest in June 2014. During the testing of KonSULT, the draft version of BMT was taken as a basis for comparison and the list of measures generated by the Measure Option Generator (MOG) was compared to the measures included in BMT. The final version of BMT is expected to roll out in October 2015.

BMT takes into account the whole metropolitan area of Budapest, therefore “Any area type” option is used for measure generation.

For testing the MOG, two lists of measures were generated, one derived from set objectives and one derived from identified problems as described in BMT. During the public consultation of the BMT, BKK collected feedback on the importance of set objectives and identified problems. After the assessment of results, BKK can define the said points more accurately. The same strategies are applied for the generation of both lists of measures, derived from the strategy described in BMT.

Packages of measures were generated out of both lists applying all variations of options (complementary/package and synergy/barrier). As a result, four packages of measures were generated from each list adding up eight packages to be evaluated. [Note: since the basis for the packages is similar, only the set of four for list 2 is shown here.] For the generation of packages of measures, packages of 5 were generated with the combination of 10 major measures from BMT. For the generation of complementary measures, Road user charging as current local hot topic was chosen for primary measure and best complementary measures were sought considering all possible measures.

A. Developing a measure catalogue via KonSULT

List 1:

The objectives and strategies in KonSULT were set to meet the operative objectives of BMT as close as possible in List 1. The strategic objectives in the four areas of intervention are reflected in the following operative objectives:

- |—• implementation of liveable public spaces,
- |—• integrated network development,
- |—• interoperable systems and intermodal connections,
- |—• environmentally friendly technologies,
- |—• comfortable, passenger friendly vehicles,
- |—• active and conscious awareness raising,
- |—• improved service quality,
- |—• consistent regulations, and
- |—• regional cooperation.

Any area type

i. Objectives:

- Efficiency [3];
- Liveable streets [5];
- Protection of the environment [5];
- Equity and social inclusion [4];

- Safety [4];
- Economic growth [5];
- Finance [5]
- ii. Strategies:
 - Reducing the need to travel [1];
 - Reducing car use [5];
 - Improving the use of road space [4];
 - Improving the use of public transport [5];
 - Improving walking and cycling [5];
 - Improving freight [4];

Table – List of measures generated based on set objectives in BMT Balázs Mór Plan

rank	measure	score
1	Road user charging	44
2	Land use to support public transport	32
3	Pedestrian areas & routes	25
4	Development density and mix	24
5	Regulatory restrictions	21
6	Accident remedial measures	21
7	Parking charges	19
8	Parking standards	19
9	School travel plans	18
10	Parking controls	17
11	Company travel plans	17
12	Cycle networks	17
13	Intelligent transport systems	17
14	Bike sharing	15
15	Bus regulation	15
16	Promotional activities	14
17	Vehicle ownership taxes	13
18	Traffic calming measures	12
19	Segregated cycle facilities	12
20	New rail stations and lines	12

List 2:

The measure generation process of List 2 is based on the problem tree of BMT. A detailed status review and problem analysis were conducted in preparation for the BMT which identified the root and recurring causes and mechanisms behind the disturbing factors that occur as symptoms. The concentrated result of the analysis is summarised in the BMT problem tree.

- i. Area type:
 - Any area type
- ii. Problems:

Congestion [5];
 Community impacts [1];
 Environmental damage [5];
 Poor accessibility [3];
 Social and geographic disadvantaging [1];
 Accidents [4];
 Suppression of Economic Activity [4]

iii. Strategies:

Reducing the need to travel [1];
 Reducing car use [5];
 Improving the use of road space [4];
 Improving the use of public transport [5];
 Improving walking and cycling [5];
 Improving freight [4];

Table - List of measures generated based on identified problems in BMT Balázs Mór Plan

rank	measure	score
1	Road user charging	41
2	Regulatory restrictions	31
3	Intelligent transport systems	31
4	Land use to support public transport	31
5	Parking controls	27
6	Development density and mix	27
7	Accident remedial measures	26
8	Pedestrian areas & routes	25
9	School travel plans	23
10	Urban traffic control	22
11	Company travel plans	22
12	Bus rapid transit	22
13	Cycle networks	21
14	Promotional activities	20
15	Parking charges	20
16	New rail stations and lines	19
17	Bus regulation	17
18	Bike sharing	17
19	Road maintenance	16
20	Segregated cycle facilities	15

List 2, package 5

- i. Packages of measures
 - a. Barrier

- b. Road user charging, Pedestrian areas & routes, Accident remedial measures, Cycle networks, Intelligent transport systems, Bike sharing, Traffic calming measures, Lorry routes & bans, Park & ride, Light rail systems; package of 5 measures
- c. Ranked packages of measures:

Table – List 2, package 5

Rank	Measure1	Measure2	Measure3	Measure4	Measure5	Total
1	Cycle networks	Accident remedial measures	Intelligent transport systems	Road user charging	Pedestrian areas & routes	22
2	Accident remedial measures	Intelligent transport systems	Road user charging	Pedestrian areas & routes	Bike sharing	21
3	Park & ride	Accident remedial measures	Intelligent transport systems	Road user charging	Pedestrian areas & routes	20
4	Cycle networks	Accident remedial measures	Intelligent transport systems	Road user charging	Bike sharing	20
5	Accident remedial measures	Traffic calming measures	Intelligent transport systems	Road user charging	Pedestrian areas & routes	20
6	Cycle networks	Accident remedial measures	Road user charging	Pedestrian areas & routes	Bike sharing	20

List 2, package 6

- i. Packages of measures
 - a. Synergy
 - b. Road user charging, Pedestrian areas & routes, Accident remedial measures, Cycle networks, Intelligent transport systems, Bike sharing, Traffic calming measures, Lorry routes & bans, Park & ride, Light rail systems; package of 5 measures
 - c. Ranked packages of measures:

Table – List 2, package 6

Rank	Measure1	Measure2	Measure3	Measure4	Measure5	Total
1	Light rail systems	Accident remedial measures	Intelligent transport systems	Road user charging	Pedestrian areas & routes	31
2	Light rail systems	Cycle networks	Intelligent transport systems	Road user charging	Pedestrian areas & routes	31
3	Cycle networks	Accident remedial measures	Intelligent transport systems	Road user charging	Pedestrian areas & routes	31
4	Light rail systems	Cycle networks	Accident remedial measures	Intelligent transport systems	Road user charging	30
5	Light rail systems	Intelligent transport systems	Road user charging	Pedestrian areas & routes	Bike sharing	30
6	Accident remedial measures	Intelligent transport systems	Road user charging	Pedestrian areas & routes	Bike sharing	30
7	Park & ride	Light rail systems	Intelligent transport systems	Road user charging	Pedestrian areas & routes	30
8	Light rail systems	Accident remedial measures	Intelligent transport systems	Road user charging	Bike sharing	30
9	Light rail systems	Cycle networks	Intelligent transport systems	Road user charging	Bike sharing	30

List 2, package 7

- i. Complementary
 - a. Barrier
 - b. Road user charging
 - c. Ranked complementary measures:

Table – List 2, package 7

Rank	Measure1	Measure2	Total
1	Road user charging	Accident remedial measures	27
2	Road user charging	Land use to support public transport	25
3	Road user charging	Regulatory restrictions	25
4	Road user charging	Intelligent transport systems	25
5	Road user charging	Urban traffic control	24
6	Road user charging	Pedestrian areas & routes	23
7	Road user charging	School travel plans	23
8	Road user charging	Parking controls	23
9	Road user charging	Company travel plans	23

List 2, package 8

- i. Complementary
 - a. Synergy
 - b. Road user charging
 - c. Ranked complementary measures:

Table – List 2, package 8

Rank	Measure1	Measure2	Total
1	Road user charging	Land use to support public transport	36
2	Road user charging	Intelligent transport systems	36
3	Road user charging	School travel plans	35
4	Road user charging	Pedestrian areas & routes	35
5	Road user charging	Company travel plans	34
6	Road user charging	Development density and mix	34
7	Road user charging	Accident remedial measures	34

B. Assessing the lists of measures and packages of measures*1. Lists of Measures**List 1 measures = List 2 measures*

- i. Measures which are already adopted in BMT Balázs Mór Plan

Table - List of already adopted measures

Adopted measure	Detailed information adds to understanding?
New road construction	no
Off street parking	yes
Light rail systems	yes
New rail stations and lines	no
Park & ride	no
Cycle networks	no
Pedestrian areas & routes	yes
Conventional traffic management	no
Urban traffic control	no
Intelligent transport systems	yes
Accident remedial measures	yes
Traffic calming measures	no
Physical restrictions	no
Regulatory restrictions	no

Parking controls	no
New rail services	no
Bus services	no
Bus priorities	yes
Demand responsive transport	no
Bus fleet management systems	yes
Bus regulation	no
Segregated cycle facilities	no
Cycle parking & storage	yes
Pedestrian crossing facilities	no
Lorry routes & bans	no
Promotional activities	no
Personalised journey planning	yes
Promoting low carbon vehicles	no
Bike sharing	no
Car clubs	yes
Conventional signs & markings	no
Variable message signs	no
Parking guidance systems	yes
Conventional timetable & service information	no
Real time passenger information	no
Trip planning systems	no
Barrier-free mobility	no
Vehicle ownership taxes	no
Parking charges	no
Road user charging	yes
Fare levels	no
Fare structures	no
Concessionary fares	no
Integrated ticketing	no

No contradictions were found between detailed measure descriptions and local experiences.

ii. Measures which are considered for adoption in BMT Balázs Mór Plan:

Table - List of measures considered for adoption

Measures considered for adoption	Detailed information adds to understanding?
School travel plans	yes

No contradictions were found between detailed measure description and local experiences.

- iii. Previously not considered measures which may be adopted in final version of BMT Balázs Mór Plan:

Table - List of previously not considered measures

Previously not considered measures	Why considered now?
Road maintenance	This measure is being implemented continuously but is not included in the strategy. The strategy only includes the complex refurbishment of roads. Including regular maintenance as well could make a more robust strategy.
High occupancy vehicle lanes	Could be part of intelligent transport management in the final version of BMT, not considered in detail but not excluded.
Low emission zones	The legal background is missing and the institutional cooperation for controlling requires preparatory measures, but this measure can be included in the strategy as a supported measure.
Crowd sourcing	This measure was out of sight before, but could be a useful measure for the development of the integrated transport model of Budapest.
Private parking charges	Regulation is currently missing, but this measure could be included in the strategy as a supported measure as its effects coincide with strategic aims.

- iv. Measures not to be considered to be adopted in BMT Balázs Mór Plan for the detailed reasons:

Table - List of measures not to be adopted

Measures not to be considered	Why not to be considered?
Development density and mix	These measures are not considered solely as transport development measures in Budapest, thus they are not included in BMT Transport development strategy. They exist in the urban planning strategy of Budapest.
Land use to support public transport	
Parking standards	
Developer contributions	
Bus rapid transit	BMT supports the development of rail-bound transport in relations with high transport demand.
Road freight fleet management systems	A city logistics concept is included in BMT but fleet management is considered as a tool for private freight fleet operators.
Company travel plans	The implementation of the measures requires intervention in a higher level as it would affect many employers.
Ride sharing	Ride sharing is pursued mainly by the private sector, thus BMT does not include this measure.
Flexible working hours	This is not considered to be solely a transport planning measure. Currently the rigidity of employers does not promote cooperation in this issue. There is no initiative at the moment on other levels either.
Telecommunications	This measure can be implemented with higher level of decision making only.
Fuel taxes	Unified national regulation exists and defines the taxes.

No contradictions were found between detailed measure descriptions and local experiences, but as described, several measures are not considered to be solely transport development measures and were thus inappropriate for inclusion in the BMT.

2. Packages of measures

List 2, package 5 (Table **Fehler! Verweisquelle konnte nicht gefunden werden.**)

All measures of the package are already adopted but only 4 out of the 5 measures have been implemented. Measures like cycle networks, accident remedial, pedestrian areas & routes, and intelligent transport systems are being continuously implemented. The first stage of implementing Road user charging is expected to start in 2015.

List 2, package 6 (

Table)

All measures of the package are already adopted but only 4 out of the 5 measures have been implemented. Measures like Light rail systems, accident remedial, pedestrian areas & routes, and intelligent transport systems are being continuously implemented. The first stage of implementing Road user charging is expected to start in 2015.

3. Complementary measures

List 2, package 7 (Table)

Accident remedial measures, Pedestrian areas & routes, Regulatory restrictions, Intelligent transport systems, Parking controls and Urban traffic control are being continuously implemented, while Road user charging is already adopted in BMT and the first stage of implementing it is expected to start in 2015. Budapest is experimenting with school travel plans within the framework of the project STARS Europe but it is not yet a part of the transport strategy. Company travel plans are not considered in the transport development strategy as it requires higher level of intervention. Land use to support public transport is not included in the transport development strategy as it is not considered to be solely transport related measure. However, land use related measures are part of the urban development strategy of Budapest which is a base of BMT.

List 2, package 8 (Table)

Accident remedial measures, Pedestrian areas & routes and Intelligent transport systems are being continuously implemented, while Road user charging is already adopted in BMT and the first stage of implementing it is expected to start in 2015. Budapest is experimenting with school travel plans within the framework of the project STARS Europe but it is not yet a part of the transport strategy. Company travel plans are not considered in the transport development strategy as it requires higher level of intervention. Land use to support public transport and Development density and mix are not included in the transport development strategy as they are not considered to be solely transport related measures. However, land use related measures are part of the urban development strategy of Budapest which is a base of BMT.

The detailed information about the measures facilitates the comprehension of how the measures can cooperate. No contradictions were found between detailed measure descriptions and local experiences or expectations.

C. Shortlisting measures and packages

a. Of your lists of measures, please note **one or two lists** which you would most like to **consider implementing**. In making your choice please note that it does not matter whether the list contains measures you have already implemented, or are already considering implementing.

List 2, the measure list generated based on identified problems is more likely to be implemented than List 1 as in the former one, among the top 30 measures, there are more measures considered to be implemented than among the top 30 measures in the latter one.

b. Please note the *individual* measures in this list/ these lists which you may consider implementing. You might include measures already implemented or those which you are already considering implementing. **Please say briefly why you have chosen these.**

Table - List of measures which are considered to be implemented

[Those already implemented or under consideration are listed above in Table 12]

Measure	Explanation for consideration for implementation
Road user charging	A criterion for receiving EU funds for the implementation of new M4 metro line was the introduction of road user charging in Budapest which is expected to reduce congestion on roads and in parking spaces in downtown area.
New rail stations and lines	There is a need for better utilization of existing lines to increase interoperability. An aim is the connection of urban and sub-urban lines.
Integrated ticketing	Integrated ticketing increases the attractiveness and competitiveness of public transport. With these aims and to increase the convenience of intermodal transport, BKK will start the implementation of a new e-ticketing system in 2015.
New rail services	BKK aims to improve interoperability of public transport service by offering new services on existing lines, thus offering more direct connections.
Crowd sourcing	This measure was out of sight before, but could be a useful support for the integrated transport model of Budapest.

The following questions apply only to those measures which you have shortlisted but **not** already implemented

- Are you aware of what the public, or sections of the public, might think about the measures (for instance, would they support the measures; would there be opposition?)
- How might you test whether there is public support for the measures?
- Would implementing the measures require cooperation of more than one institution (for instance, would it require two local authorities to agree)?

If the answer to (c) is yes, please note what this cooperation would involve.

Table - List of measures not yet implemented

Measure	Awareness on public opinion? (Support/opposition)	How to test if there is public support?	Requires cooperation with more than 1 institution?	If yes, what this cooperation would involve?
Road user charging	The implementation of this measure means huge political risk. Therefore all stakeholders are aware of public opinion. Expected serious opposition must be balanced with complementary measures.	Public consultations, web-based surveys. Stated preference surveys	yes	Continuous consultations are needed before and during the first years of implementation in order to set the optimal pricing and area of the charged zone. The main goals are to decrease congestion and to generate incomes.
New rail stations and lines	Basically supported as it provides a more comfortable way of traveling as it offers higher service level in terms of connection	Public consultations, web-based surveys, focused survey on directly affected people (e.g.: in suburbs)	yes, in case of expansion of service to metropolitan area (Hungarian National Railways, BKK, Municipality of Budapest)	It needs wide range of agreements including property rights, service management and maintenance.
Integrated ticketing	Basically supported as it provides a more comfortable way of traveling and increases the comfort for trips with transfers	Public consultations, web-based surveys	yes	If e-ticketing was connected to Hungarian National Railways and to local bus service providers too, an integrated tariff system should be introduced
New rail services	Basically supported as it provides a more comfortable way of traveling and increases the comfort for trips with transfers	Public consultations, web-based surveys	no (connection of suburban lines and urban rail network are both managed by BKK)	-

Lorry routes & bans	Supported by public as it decreases congestion and air pollution in the city. From the implementation of an appropriate concept, travel companies can benefit too.	Public consultations with transport companies, transport unions, NGOs on environment protection, local people, web-based survey	yes	It needs agreement on defining delivery routes, delivery time, location on consolidation sites, type of vehicles to be used, etc. Cooperation is needed in defining possible subsidy structures.
Car clubs	Basically supported as it provides new mobility opportunities for people without car ownership	Web-based surveys	no	-
Crowd sourcing	It is voluntary, therefore, it is pursued only by the ones who support it	As this measure generates useful information for public transport organisers, marketing tools are needed to introduce and to advertise crowd sourcing	yes	For the very first step, legal and institutional framework of open data usage should be clarified with the involvement of all stakeholders.

c. Of your packages, please note one or two which you would most like to consider implementing. **Please say briefly why you have chosen these.** Please include at least one package which you have not already implemented, or have already been considering implementing.

- Are you aware of what the public, or sections of the public, might think about the package(s) chosen?
- How might you test whether there is public support for the package(s)
- Would implementing the package(s) require cooperation of more than one institution (for instance, would it require two local authorities to agree?)?
- If the answer to (c) is yes, please note what this cooperation would involve.

List 2, package 6, (2nd package from

Table)

Included measures: cycle networks, intelligent transport systems and pedestrian areas & routes are being continuously developed and their implementation is not yet finished. Road user charging and light rail systems are yet to be implemented.

Table – List of measures in chosen package (partly implemented package)

Measure	Awareness on public opinion? (Support/oppose)	How to test if there is public support?	Requires cooperation with more than 1 institution?	If yes, what this cooperation would involve?
Cycle networks	Heavily supported as the number of cyclists in Budapest rises rapidly. Opposition is expected from car drivers.	Public consultations, web-based surveys	Depends on location but mostly yes.	The definition of dedicated projects may need cooperation with utility companies, city districts, and municipality of Budapest.
Intelligent transport systems	There is a major support for this measure as it provides more comfort for travellers.	Public consultations, web-based surveys	no	-
Pedestrian areas & routes	Development of networks for pedestrian is highly supported, while the opposition of car users is not strong.	Public consultations, web-based surveys	Depends on location	It may need cooperation with utility companies, city districts, and municipality of Budapest.
Road user charging	The implementation of this measure means huge political risk. Therefore all stakeholders are aware of public opinion. Expected serious opposition must be balanced with complementary measures.	Public consultations, web-based surveys. Stated preference surveys	yes	Continuous consultations are needed before and during the first years of implementation in order to set the optimal pricing and area of the charged zone. The main goals are to decrease congestion and to generate incomes.

Light rail systems	It is supported as it can result in decrease in trip times and offers more direct connections.	Public consultations, web-based surveys	yes	It needs wide range of agreements including property rights for construction of lines, management of services and maintenance.
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D. Comments on the website

Please let us have your comments on the ease with which you were able to use the website, and its attractiveness. Are there improvements which you think that we should make?

In using the Policy Guidebook, were there case studies of particular measures that you think we could usefully include? If so, please let us have details.

Remarks:

Regarding the webpage itself:

- The webpage is easy to use and guides the visitors well
- The policy guidebook provides a lot of useful information collected in one place and information is easily accessible from the Measure Option Generator as well.

Regarding the Measure Option Generator:

- Some reference links from policy guidebook (Road user charging) do not work
- Some measures are not considered to be entirely transport planning measures (land use measures), as defined in urban planning strategies.
- Some measures need higher level of intervention (fuel taxes, flexible working hours) which are harder to achieve
- Some measures cover packages of measures in a complex approach (e.g. Promotional activities, Intelligent transport systems can be broken down to several measures)

Annex 7: Test report from Dresden

[longer tables have been abridged; the full version is available from the authors]

A. Developing a measure catalogue via KonSULT

You can find the KonSULT tool at <http://www.konsult.leeds.ac.uk>. We suggest that you focus on the Measure Option Generator (the top tab on the left hand side of the home page). However you may wish to look at the Policy Guidebook or the Decision-Makers' Guidebook. There are links to further information on using all of these on the home page.

We suggest that you experiment with the KonSULT tool to see the different methods of generating measure and package options, and to find the approach(es) that you think most useful. You will find guidance notes within the website which explain what you can do, and how KonSULT generates the suggestions which it makes.

I. First please enter the Measure Option Generator and use KonSULT to generate one or more lists of measures. You can generate a list which takes account of *either* your city's objectives, problems or indicators. You can consider your whole city or focus on a particular part of it. If you wish, you can identify measures which contribute to a specific strategy.

Please specify each list in the format indicated below. You can add one or more lists – ***please number each list (list 1; list 2 etc.):***

Dresden list 1

- xiii. Note the 'area type' you chose **any area type**
- xiv. Note the objectives or problems or indicators, and the importance that each is given
e.g. Objectives:
objectives:
 - Efficiency [1]
 - Liveable streets [5]
 - Protection of the environment [5]
 - Equity and social inclusion [5]
 - Safety [5];
 - Economic growth [3];
 - Finance [1]
- xv. Note the strategies you chose and the importance that each is given (or note if you chose 'any strategy')
 - Reducing the need to travel [2]
 - Reducing car use [4]
 - Improving the use of road space [5]
 - Improving the use of Public Transport [5]
 - Improving the use of walking and cycling [5]
 - Improving freight [3]
- xvi. Note the list of measures you generate

rank	code	category	cost	timescale	measure	score
1	605	Pricing	neutral	medium	Road user charging	37

2	209	Infrastructure Land Use	medium	medium	Pedestrian areas & routes	35
3	102	Measures Management and service	neutral	long	Land use to support public transport	34
4	305	measures Land Use	medium	short	Accident remedial measures	30
5	101	Measures Management and service	high	long	Development density and mix	29
6	309	measures	low	short	Regulatory restrictions	27
7	208	Infrastructure Attitudinal and behavioural	medium	medium	Cycle networks	24
8	404	measures Management and service	low	short	School travel plans	23
9	311	measures Management and service	low	short	Parking controls	23
10	304	measures Land Use	medium	medium	Intelligent transport systems	22
11	103	Measures Attitudinal and behavioural	low	long	Parking standards	20
12	403	measures	low	short	Company travel plans	20
13	603	Pricing Management and service	neutral	short	Parking charges	19
14	306	measures Attitudinal and behavioural	medium	short	Traffic calming measures	19
15	401	measures Attitudinal and behavioural	low	short	Promotional activities	18
16	407	measures Management and service	medium	medium	Bike sharing	17
17	318	measures	medium	short	Segregated cycle facilities	16
18	204	Infrastructure Management and service	high	medium	New rail stations and lines	16
19	317	measures	neutral	medium	Bus regulation	16
20	509	Information	medium	short	Barrier-free mobility	15

You can find out more about any of the measures by clicking on it. This will take you straight to the relevant entry in the Policy Guidebook.

2. Packaging measures. Beginning with each list of measures, please generate some packages (you can get to the packaging pages by clicking the 'package option generator' button above the list of measures). The package option generator allows you to choose whether to seek measures which complement a given policy measure, or to create packages of up to five measures from a chosen list. To simplify the latter, only 10 measures can be shortlisted. In either case you can choose measures which help overcome barriers to implementation, or ones which reinforce each other (by creating synergy).

Please specify each package in the format indicated below (again you can add one or more packages).

In each case please specify which list of measures is used to generate the package i.e. list 1; list 2...; and please number the packages so that you have, for instance list 1, package 1; list 1 package 2; list 2, package 3)

List 1, package 1

- ix. Note whether you chose 'complementary measures' or 'packages'
complementary for getting synergies with the selected measure
- x. If you chose complementary measures:
 - a. Please specify the single measure for which you wanted to identify complementary measures
rank 5: land use measures - development density and mix
 - b. Note whether you chose 'barrier' or 'synergy'
synergy to get to know combinations of most effective additional measures
 - c. Please note the ranked combinations

Rank	Measure1	Measure2	Total
1	Development density and mix	Pedestrian areas & routes	32
2	Development density and mix	Land use to support public transport	31
3	Development density and mix	Cycle networks	26
4	Development density and mix	Parking charges	24
5	Development density and mix	Traffic calming measures	24
6	Development density and mix	New rail stations and lines	22

List 1, package 2

- i. Note whether you chose 'complementary measures' or 'packages'
complementary for getting synergies with the selected measure
- ii. If you chose complementary measures:
 - a. Please specify the single measure for which you wanted to identify complementary measures
all measures selected
 - b. Note whether you chose 'barrier' or 'synergy'
synergy to get to know combinations of most effective additional measures
 - c. Please note the ranked combinations

Rank	Measure1	Measure2	Total
1	Development density and mix	Road user charging	33
2	Development density and mix	Pedestrian areas & routes	32
3	Development density and mix	Land use to support public transport	31
4	Development density and mix	Accident remedial measures	29
5	Development density and mix	Regulatory restrictions	28
6	Development density and mix	Cycle networks	26

7	Development density and mix	School travel plans	26
8	Development density and mix	Parking controls	26
9	Development density and mix	Intelligent transport systems	25
10	Development density and mix	Parking standards	24
11	Development density and mix	Company travel plans	24
12	Development density and mix	Parking charges	24
13	Development density and mix	Traffic calming measures	24
14	Development density and mix	Promotional activities	23
15	Development density and mix	Bike sharing	23
16	Development density and mix	Segregated cycle facilities	23
17	Development density and mix	New rail stations and lines	22
18	Development density and mix	Bus regulation	22
19	Development density and mix	Barrier-free mobility	22
20	Development density and mix	Bus rapid transit	21

Dresden list 2

- xvii. Note the 'area type' you chose [any area type](#)
- xviii. Note the objectives or problems or indicators, and the importance that each is given
e.g. Objectives:
[indicators:](#)
CO2 emissions [5]
Local pollution [5]
Accessibility to key services [5]
Safety [5];
- xix. Note the strategies you chose and the importance that each is given (or note if you chose 'any strategy')
[any strategy](#)
- xx. Note the list of measures you generate

rank	code	category	cost	timescale	measure	score
		Management and				
1	304	service measures	medium	medium	Intelligent transport systems	60
2	605	Pricing	neutral	medium	Road user charging	60
3	102	Land Use Measures	neutral	long	Land use to support public transport	60
4	209	Infrastructure	medium	medium	Pedestrian areas & routes	60
		Management and				
5	309	service measures	low	short	Regulatory restrictions	55
6	208	Infrastructure	medium	medium	Cycle networks	55
7	101	Land Use Measures	high	long	Development density and mix	55

8	305	Management and service measures	medium	short	Accident remedial measures	50
9	401	Attitudinal and behavioural measures	low	short	Promotional activities	50
10	303	Management and service measures	medium	medium	Urban traffic control	45
11	407	Attitudinal and behavioural measures	medium	medium	Bike sharing	45
12	318	Management and service measures	medium	short	Segregated cycle facilities	45
13	609	Pricing	low	medium	Integrated ticketing	45
14	205	Infrastructure	medium	medium	Bus rapid transit	45
15	204	Infrastructure	high	medium	New rail stations and lines	45
16	404	Attitudinal and behavioural measures	low	short	School travel plans	40
17	608	Pricing	low	short	Concessionary fares	40
18	405	Attitudinal and behavioural measures	medium	medium	Promoting low carbon vehicles	40
19	310	Management and service measures	low	short	Low emission zones	40
20	311	Management and service measures	low	short	Parking controls	40

You can find out more about any of the measures by clicking on it. This will take you straight to the relevant entry in the Policy Guidebook.

2. Packaging measures. Beginning with each list of measures, please generate some packages (you can get to the packaging pages by clicking the ‘package option generator’ button above the list of measures). The package option generator allows you to choose whether to seek measures which complement a given policy measure, or to create packages of up to five measures from a chosen list. To simplify the latter, only 10 measures can be shortlisted. In either case you can choose measures which help overcome barriers to implementation, or ones which reinforce each other (by creating synergy).

Please specify each package in the format indicated below (again you can add one or more packages).

In each case please specify which list of measures is used to generate the package i.e. list 1; list 2...; and please number the packages so that you have, for instance list 1, package 1; list 1 package 2; list 2, package 3)

List 2, package 1

- iii. Note whether you chose 'complementary measures' or 'packages'
complementary for getting synergies with the selected measure
- iv. If you chose complementary measures:
 - a. Please specify the single measure for which you wanted to identify complementary measures
all measures selected
 - b. Note whether you chose 'barrier' or 'synergy'
synergy to get to know combinations of most effective additional measures
 - c. Please note the ranked combinations

Rank	Measure1	Measure2	Total
1	Intelligent transport systems	Road user charging	61
2	Intelligent transport systems	Pedestrian areas & routes	61
3	Intelligent transport systems	Land use to support public transport	60
4	Intelligent transport systems	Cycle networks	59
5	Intelligent transport systems	Development density and mix	58
6	Intelligent transport systems	Regulatory restrictions	56
7	Intelligent transport systems	Promotional activities	56
8	Intelligent transport systems	Bus rapid transit	55
9	Intelligent transport systems	New rail stations and lines	55
10	Intelligent transport systems	Segregated cycle facilities	54
11	Intelligent transport systems	Bike sharing	54
12	Intelligent transport systems	Integrated ticketing	53
13	Intelligent transport systems	Accident remedial measures	53
14	Intelligent transport systems	Urban traffic control	53
15	Intelligent transport systems	Light rail systems	53
16	Intelligent transport systems	School travel plans	51
17	Intelligent transport systems	Company travel plans	51
18	Intelligent transport systems	Concessionary fares	51
19	Intelligent transport systems	Parking charges	49
20	Intelligent transport systems	Promoting low carbon vehicles	48

Dresden list 3

- xxi. Note the 'area type' you chose city centre
- xxii. Note the objectives or problems or indicators, and the importance that each is given
e.g. Objectives:
objectives:
 - Liveable streets [5]
 - Protection of the environment [4]
 - Equity and social inclusion [5]
 - Safety [5];
 - Economic growth [3];

xxiii. Note the strategies you chose and the importance that each is given (or note if you chose 'any strategy')

Reducing car use [4]

Improving the use of road space [4]

Improving the use of Public Transport [4]

Improving the use of walking and cycling [4]

xxiv. Note the list of measures you generate

rank	code	category	cost	timescale	measure	score
1	209	Infrastructure	medium	medium	Pedestrian areas & routes	47
2	605	Pricing	neutral	medium	Road user charging	37
3	102	Land Use Measures	neutral	long	Land use to support public transport	37
4	305	Management and service measures	medium	short	Accident remedial measures	34
5	208	Infrastructure	medium	medium	Cycle networks	33
6	309	Management and service measures	low	short	Regulatory restrictions	32
7	404	Attitudinal and behavioural measures	low	short	School travel plans	29
8	101	Land Use Measures	high	long	Development density and mix	25
9	318	Management and service measures	medium	short	Segregated cycle facilities	23
10	311	Management and service measures	low	short	Parking controls	23
11	603	Pricing	neutral	short	Parking charges	22
12	401	Attitudinal and behavioural measures	low	short	Promotional activities	22
13	103	Land Use Measures	low	long	Parking standards	22
14	407	Management and service measures	medium	medium	Bike sharing	22
15	304	Management and service measures	medium	medium	Intelligent transport systems	21
16	509	Information	medium	short	Barrier-free mobility	21
17	609	Pricing	low	medium	Integrated ticketing	18
18	606	Pricing	medium	short	Fare levels	17
19	317	Management and service measures	neutral	medium	Bus regulation	16
20	203	Infrastructure	high	long	Light rail systems	16

You can find out more about any of the measures by clicking on it. This will take you straight to the relevant entry in the Policy Guidebook.

2. Packaging measures. Beginning with each list of measures, please generate some packages (you can get to the packaging pages by clicking the 'package option generator' button above the list of

measures). The package option generator allows you to choose whether to seek measures which complement a given policy measure, or to create packages of up to five measures from a chosen list. To simplify the latter, only 10 measures can be shortlisted. In either case you can choose measures which help overcome barriers to implementation, or ones which reinforce each other (by creating synergy).

Please specify each package in the format indicated below (again you can add one or more packages).

In each case please specify which list of measures is used to generate the package i.e. list 1; list 2...; and please number the packages so that you have, for instance list 1, package 1; list 1 package 2; list 2, package 3)

List 3, package 1

- v. Note whether you chose 'complementary measures' or 'packages'
packages to get a bundle of measures with highest synergies
- vi. If you chose packages:
 - a. Please note the measures that you chose and the size of the package

1	209	Infrastructure	medium	medium	Pedestrian areas & routes
5	208	Infrastructure	medium	medium	Cycle networks
18	606	Pricing	medium	short	Fare levels
11	603	Pricing	neutral	short	Parking charges
 - b. Note whether you chose 'barrier' or 'synergy'
synergy to get to know combinations of most effective additional measures
 - c. Please note the ranked combinations

Rank	Measure1	Measure2	Measure3	Measure4	Total
1	Cycle networks	Parking charges	Fare levels	Pedestrian areas & routes	33

B. Assessing the lists of measures and packages of measures

We would like you to critically assess the measures and packages that you have generated using KonSULT. Please try to respond to each point giving as much or as little detail as you think appropriate.

1. For each list of measures, please comment on the following points (please clearly say which list you are referring to, e.g. list 1; list 2):

- xiii. Does the list include measures you have already adopted –if so please specify which measures.
List 1: 54 of 61 KonSULT measures are included in the Dresden SUMP
List 2: 54 of 61 KonSULT measures are included in the Dresden SUMP
List 3: 54 of 61 KonSULT measures are included in the Dresden SUMP
 - a. If so, does the detailed information KonSULT gives about the measure in the Policy Guidebook add to your understanding of the measure?
yes, KonSULT gives valuable information and added the understanding
 - b. Does the detailed information KonSULT gives about the measure in the Policy Guidebook differ from your experience of the measure – if so, please say how.
- xiv. Does the list include any measures which you are already considering - if so please specify which measures.

- a. If so, does the detailed information KonSULT gives about the measure in the Policy Guidebook add to your understanding of the measure?
 - b. Does the detailed information KonSULT gives about the measure in the Policy Guidebook conflict with your expectations of the measure – if so, please say how.
The KonSULT measure generator matched very closely the measures identified and already adopted in Dresden
- xv. Does the list include measures which you had not previously considered adopting, but which you might now consider adopting? If so, please say which measures. no, there is no additional measure which we take into consideration currently. Please note, the Dresden SUMP is adopted in November 2014. So it is “up to date”.
 - a. Please outline why you might now consider them.
- xvi. Does the list include any measures which you would not consider - if so please specify which measures.
Road user charging, Bus rapid transit, telecommunications, vehicle ownership taxes, low emission zones, fuel taxes, high occupancy vehicle lanes
 - a. Please say why these measures would not be considered
these measures are not legally feasible or not suitable/not efficient/ not of potential interest in Dresden
 - b. Does the detailed information KonSULT gives about the measure in the Policy Guidebook differ from your experience of the measure – if so, please say how.
Generally no.

2. For each package of measures, please comment on the following points as applicable (please clearly say which list you are referring to, e.g. package 1; package 2):

The following information are about all 3 lists and all packages.

- xvi. Have you already implemented all of this package of measures?
no
 - a. If so, does the detailed information KonSULT gives about the measures in the package add to your understanding of the package?
 - b. Does the detailed information KonSULT gives about the measures in the package differ from your experience – if so, please say how.
- xvii. Have you already implemented part of this package of measures?
Yes we have continuous implementation step by step.
 - a. If so, does the detailed information KonSULT gives about the measures in the package help you to make this package more effective?
 - b. Does the detailed information KonSULT gives about the measures in the package differ from your experience or expectations – if so, please say how.
- xviii. Are you already considering this package?
Yes we do.
 - a. If so, does KonSULT add to your understanding of the package?
Yes.
 - b. Does the information KonSULT gives about the measures in the package differ from your expectations– if so, please say how.
- xix. Is the package one which you had not considered implementing, but which you might consider now?
 - a. If so, please outline why you might now consider it.

- xx. Is the package one which you would not consider?
 - a. If so, please say why
 - b. Does the information KonSULT gives differ from your understanding of the measures in the package – if so, please say how.

C. Shortlisting measures and packages

a. Of your lists of measures, please note one or two *lists* which you would most like to consider implementing. In making your choice please note that it does not matter whether the list contains measures you have already implemented, or are already considering implementing.

b. Please note the *individual* measures in this list/ these lists which you may consider implementing. You might include measures already implemented or those which you are already considering implementing. **Please say briefly why you have chosen these.**

The Dresden SUMP was formally political adopted in November 2014. So we have the political decision about the SUMP measure list. We do not use the measure generator and packaging for elaborating a local measure list. This one is adopted and the implementation has started after adoption. The most of the KonSULT generated measures are already included in the Dresden SUMP measure list. Additional measures are identified, but these are not suitable/not efficient/not of potential interest in Dresden. These are: Bus rapid transit, telecommunications, low emission zones, high occupancy vehicle lanes.

The following questions apply only to those measures which you have shortlisted but **not** already implemented

- m. Are you aware of what the public, or sections of the public, might think about the measures (for instance, would they support the measures; would there be opposition?)
- n. How might you test whether there is public support for the measures?
- o. Would implementing the measures require cooperation of more than one institution (for instance, would it require two local authorities to agree)?
- p. If the answer to (c) is yes, please note what this cooperation would involve.

c. Of your packages, please note one or two which you would most like to consider implementing. **Please say briefly why you have chosen these.** Please include at least one package which you have not already implemented, or have already been considering implementing.

- m. Are you aware of what the public, or sections of the public, might think about the package(s) chosen?
- n. How might you test whether there is public support for the package(s)
- o. Would implementing the package(s) require cooperation of more than one institution (for instance, would it require two local authorities to agree)?
- p. If the answer to (c) is yes, please note what this cooperation would involve.

D. Comments on the website

Please let us have your comments on the ease with which you were able to use the website, and its attractiveness. Are there improvements which you think that we should make?

The KonSULT website is a very helpful tool for mobility planners and experts. The measure generator is not suitable for detailed local specific design. It is very helpful for cities to get also an overview how measures work together.

- The measure catalogue is well structured. It shows possible measures - it is like a tool box for transport planners to get a general overview. But in our point of view: we have to solve local and regional problems - therefore we need specific local adapted measures. The measure generator gives an overview and a guidance about possible measures and a ranking more generally. But it cannot focus on the specific local situations. So the measure generator is a very good tool for first suggestions of measures and also for structuring measures. The results are the basis of developing measures which fitting the specific local problems and targets. An advanced expert knows in most cases the suggested measures of KonSULT. So we think, the measure generator is very good for students and young professionals as well as for smaller cities and not so experienced experts. Especially the measure generator with packaging is important for cities which do not have a traffic model for modelling and impact assessment.
- The KonSULT measure generator is developed mostly on the basis of English literature and know how in English speaking countries. From our point of view it does not fully reflect the differing situations in European states with different law and regulations. But it can not cover all different state approaches and rules.
- So our experience using the KonSULT measure generator uptil now is: it helps to find an orientation, a guidance and an overview. For developing detailed measures with fits the local situation well and efficient - the measure generator is a bit to rough or not sensible enough. So you need to adapt the results of the KonSULT measure generator to your specific local situation. E.g. the ranking of KonSULT is an orientation but it does not take into account local specific like geographical and topografical characteristics, settlement structure characteristics, historical specific etc.
- In Dresden we have used a model for impact assessment of scenarios. The model is a rough transport model of Dresden. So we have used a lot of Dresden specific basic data (inhabitants, working places, mobility behaviour, etc.) in the model. This gives us authoritative forecasts of the different scenarios. We think, if cities do not have such a modelling, than the KonSULT measure generator with ranking of measures/measure packages gives a good guidance. But if cities have a specific transport model, than this is more detailed and well suited to assess the measure bundles and find the best local measures.

Two comments about measures:

1. The first is about implementation of barriere-free mobility. We found it only mentioned as a information measure. We think this should also be an infrastructure measure.
2. In the measure catalogue there is Public Transport mentioned as bus and light rail and rail. We are missing the word tram. If not already mentioned it should be implemented in the measure generator in a suitable way.

In using the Policy Guidebook, were there case studies of particular measures that you think we could usefully include? If so, please let us have details

Annex 8: Test report from Gent

[longer tables have been abridged; the full version is available from the authors]

A. Developing a measure catalogue via KonSULT

You can find the KonSULT tool at <http://www.konsult.leeds.ac.uk>

We suggest that you experiment with the KonSULT tool to see the different methods of generating measure and package options, and to find the approach(es) that you think is most useful. You will find guidance notes within the website which explain what you can do, and how KonSULT generates the suggestions which it makes.

I. First please use KonSULT to generate one or more lists of measures. You can generate a list which takes account of *either* your city's objectives, problems or indicators. You can consider your whole city or focus on a particular part of it. If you wish, you can identify measures which contribute to a specific strategy.

Please write each list in the format indicated below. You can add one or more lists – ***please number each list (list 1; list 2 etc.):***

List 1 (case: pilot future for urban highway B401)

- xxv. Note the 'area type' you chose
Corridor
- xxvi. Note the objectives or problems or indicators, and the importance that each is given
Liveable streets (3)
Protection of the environment (4)
Safety (2)
Economic growth (3)
- xxvii. Note the strategy you chose (or note if you chose 'any strategy')
Reducing Car use (4)
Improving the use of road space (2)
Improving the use of public transport (3)
Improving walking and cycling (3)
- xxviii. Note the list of measures you generate – you can use the facility on the website to save your list

rank	code	category	cost	timescale	measure	score
1	102	Land Use Measures	neutral	long	Land use to support public transport	43
2	208	Infrastructure	medium	medium	Cycle networks	29
3	401	Attitudinal and behavioural measures	low	short	Promotional activities	26
4	404	Attitudinal and behavioural measures	low	short	School travel plans	25
5	605	Pricing	neutral	medium	Road user charging	24

6	318	Management and service measures	medium	short	Segregated cycle facilities	21
7	407	Attitudinal and behavioural measures	medium	medium	Bike sharing	21
8	309	Management and service measures	low	short	Regulatory restrictions	21
9	305	Management and service measures	medium	short	Accident remedial measures	19
10	209	Infrastructure	medium	medium	Pedestrian areas & routes	18
11	205	Infrastructure	medium	medium	Bus rapid transit	16
12	306	Management and service measures	medium	short	Traffic calming measures	16
13	606	Pricing	medium	short	Fare levels	15
14	304	Management and service measures	medium	medium	Intelligent transport systems	14
15	602	Pricing	neutral	short	Fuel taxes	14
16	403	Attitudinal and behavioural measures	low	short	Company travel plans	14
17	103	Land Use Measures	low	long	Parking standards	14
18	314	Management and service measures	low	short	Bus priorities	13
19	317	Management and service measures	neutral	medium	Bus regulation	12
20	311	Management and service measures	low	short	Parking controls	12

List 2 (case congestion in inner city)

xxix. Note the 'area type' you chose

City Center

xxx. Note the objectives or **problems** or indicators, and the importance that each is given

Congestion (4)

Environmental damage (3)

Suppression of economic activity (3)

xxxi. Note the strategy you chose (or note if you chose 'any strategy')

Reducing the need to travel (4)

Reducing Car use (4)
 Improving the use of public transport (3)
 Improving walking and cycling (3)
 Improving freight (2)

xxxii. Note the list of measures you generate – you can use the facility on the website to save your list

rank	code	category	cost	timescale	measure	score
1	605	Pricing	neutral	medium	Road user charging	41
2	102	Land Use Measures	neutral	long	Land use to support public transport	37
3	309	Management and service measures	low	short	Regulatory restrictions	26
4	401	Attitudinal and behavioural measures	low	short	Promotional activities	26
5	101	Land Use Measures	high	long	Development density and mix	24
6	404	Attitudinal and behavioural measures	low	short	School travel plans	21
7	304	Management and service measures	medium	medium	Intelligent transport systems	18
8	303	Management and service measures	medium	medium	Urban traffic control	17
9	311	Management and service measures	low	short	Parking controls	16
10	209	Infrastructure	medium	medium	Pedestrian areas & routes	16
11	103	Land Use Measures	low	long	Parking standards	16
12	603	Pricing	neutral	short	Parking charges	15
13	601	Pricing	neutral	short	Vehicle ownership taxes	14
14	203	Infrastructure	high	long	Light rail systems	14
15	403	Attitudinal and behavioural measures	low	short	Company travel plans	13
16	208	Infrastructure	medium	medium	Cycle networks	12
17	407	Attitudinal and behavioural measures	medium	medium	Bike sharing	11

18	606	Pricing	medium	short	Fare levels	11
19	607	Pricing	neutral	medium	Fare structures	11
20	604	Pricing	neutral	medium	Private parking charges	11

List 3 (case congestion in inner city)

xxxiii. Note the 'area type' you chose

City Center

xxxiv. Note the objectives or problems or **indicators**, and the importance that each is given

Congestion (4)

Bus reliability (4)

Local pollution (2)

Accessibility (3)

xxxv. Note the strategy you chose (or note if you chose 'any strategy')

Improving the use of public transport (4)

Improving walking and cycling (4)

xxxvi. Note the list of measures you generate – you can use the facility on the website to save your list

rank	code	category	cost	timescale	measure	score
1	605	Pricing	neutral	medium	Road user charging	43
2	102	Land Use Measures	neutral	long	Land use to support public transport	31
3	309	Management and service measures	low	short	Regulatory restrictions	22
4	209	Infrastructure	medium	medium	Pedestrian areas & routes	18
5	208	Infrastructure	medium	medium	Cycle networks	18
6	303	Management and service measures	medium	medium	Urban traffic control	17
7	101	Land Use Measures	high	long	Development density and mix	15
8	401	Attitudinal and behavioural measures	low	short	Promotional activities	13
9	305	Management and service measures	medium	short	Accident remedial measures	12
10	304	Management and service measures	medium	medium	Intelligent transport systems	12
11	404	Attitudinal and behavioural measures	low	short	School travel plans	12
12	609	Pricing	low	medium	Integrated ticketing	12
13	311	Management and service measures	low	short	Parking controls	10
14	203	Infrastructure	high	long	Light rail systems	10
15	603	Pricing	neutral	short	Parking charges	10

16	407	Attitudinal and behavioural measures	medium	medium	Bike sharing	9
17	606	Pricing	medium	short	Fare levels	8
18	301	Management and service measures	medium	short	Road maintenance	7
19	317	Management and service measures	neutral	medium	Bus regulation	7
20	607	Pricing	neutral	medium	Fare structures	6

2. Packaging measures. Beginning with each list of measures, please generate some packages (you can get to the packaging pages by clicking the 'option generator' button above the list of measures).

Please write each package in the format indicated below (again you can add one or more packages).

In each case please specify which list of measures is used to generate the package i.e. list 1; list 2...; and please number the packages so that you have, for instance list 1, package 1; list 1 package 2; list 2, package 3)

Package 1; list1

- xi. Note whether you chose 'complementary measures' or 'packages'
'complementary measures'
- xii. If you chose complementary measures:
 - a. Please specify the single measure for which you want to identify complementary measure
102 Land use to support public transport
 - b. Note whether you chose 'barrier' or 'synergy'
'synergy'
 - c. Please note the ranked combinations

Rank	Measure1	Measure2	Total
1	Land use to support public transport	Cycle networks	36
2	Land use to support public transport	Promotional activities	35
3	Land use to support public transport	Pedestrian areas & routes	30
4	Land use to support public transport	Bus rapid transit	30
5	Land use to support public transport	Traffic calming measures	30
6	Land use to support public transport	Park & ride	26

Package 2; list2

- i. Note whether you chose 'complementary measures' or 'packages'
'Package'
- ii. If you chose packages:
 - a. Note whether you chose 'barrier' or 'synergy'
 - b. Please note the measures that you have chosen to consider
Infrastructure measures as pedestrian areas&routes, cycle networks, park&ride and offstreet parking
 - c. Please note the ranked packages

Rank	Measure1	Measure2	Total
1	Development density and mix	Land use to support public transport	30
2	Cycle networks	Land use to support public transport	25
3	Development density and mix	Cycle networks	18

Package 3; list3

- i. Note whether you chose 'complementary measures' or 'packages'
'Package'
- ii. If you chose packages:
 - a. Note whether you chose 'barrier' or 'synergy'
 - b. Please note the measures that you have chosen to consider
Land use measures – cycling networks and public transport
Development density and mix
 - c. Please note the ranked packages

Rank	Measure1	Measure2	Total
1	Cycle networks	Pedestrian areas & routes	12
2	Park & ride	Pedestrian areas & routes	3
3	Park & ride	Cycle networks	2
4	Off street parking	Pedestrian areas & routes	2
5	Off street parking	Cycle networks	1
6	Park & ride	Off street parking	-8

B. Assessing the lists of measures and packages of measures

We would like you to critically assess the measures and packages that you have generated using

KonSULT. Please try to respond to each point giving as much or as little detail as you think appropriate.

1. For each list of measures, please comment on the following points (please clearly say which list you are referring to, e.g. list 1; list 2):

- xvii. Does the list include measures you have already adopted –if so please specify which measures.
 List 1: No, because our pilot SUMP urban highway B401 has not started yet, none of the measures are implemented at this stage
 List 2: Yes, our first SUMP for the city centre dates from 1997. In that period, the foundations were laid for all later actions and measures. Coincidence or not, but the generated list is actually a good summary of later actions that came out after the implementation of our first SUMP
 List3: Yes, the first SUMP for the city centre dates from 1997. Cycle plan even exists from earlier date. The public transport plan “perspectief 2025” dates from 2002.
 a. If so, does the detailed information KonSULT gives about the measure add to your understanding of the measure?
 List 1, 2 and 3: Not understanding the content of the generated measures because most of them were already known due to our first SUMP experience or our ideas about the future of the urban highway. But it made our organic developed list of measures meaningful in a way.
 b. Does the detailed information KonSULT gives about the measure differ from your experience of the measure – if so, please say how.
 No
- xviii. Does the list include any measures which you are already considering - if so please specify which measures.
 List 1: Yes, it was rather amazing to see that the list gives a pretty good idea of measures we already considered for our project B401.
 List3: Yes, it was useful to see a complete list of measures which can be used, but the ranking/scores used in Ghent will be different from KonSULT as some measures were already implemented or not possible to implement on short time as some measures need to be regulated on higher level (Flemish or even federal level) e.g. vehicle owner taxes.
- xix.
 - a. If so, does the detailed information KonSULT gives about the measure add to your understanding of the measure?
 Although we already considered most of the measures, the descriptions were very helpful and to the point.
 - b. Does the detailed information KonSULT gives about the measure conflict with your expectations of the measure – if so, please say how.
 Not really, but as already explained it is always very helpful to have a clear description of the content of a measure while discussing it with other stakeholders.
- xx. Does the list include measures which you had not previously considered adopting, but which you might now consider adopting? If so, please say which measures.

List1, 2 and 3: No, but that's because Gent already has a tradition on integrated mobility planning. This proves that KonSULT and Gent are already on the same "wave".

a. Please outline why you might now consider them.

List3: It was interesting to have an overview of all measures which can be used for the implementation of the case "congestion in inner city". This gives us an opportunity to use extra measures. For case3 examples of extra measures are school/company travel plans for schools/companies located in the city centre.

xxi. Does the list include any measures which you would not consider* - if so please specify which measures.

Yes, Road pricing and low emission zones, vehicle owner taxes,...

a. Please say why these measures would not be considered

Both of the measures are good principles but in a Belgian context, cities lack of power for implementing them in their own policy

b. Does the detailed information KonSULT gives about the measure differ from your experience of the measure – if so, please say how.

No

**This question only applies to measures you have not told KonSULT to exclude*

2. For each package of measures, please comment on the following points as applicable (please clearly say which list you are referring to, e.g. package 1; package 2):

xxi. Have you already implemented all of this package of measures?

No, or not in an integrated package approach

a. If so, does the detailed information KonSULT add to your understanding of the package?

b. Does the detailed information KonSULT gives about the package differ from your experience – if so, please say how.

No, but that's because of the rather generic description of the individual measures.

The description itself is very clear and to the point, but the context of this tool doesn't allow to get more specific details on scale of our own city or pilot project.

xxii. Have you already implemented some of the measures in this package?

Yes, but not necessarily in an integrated way

a. If so, does the detailed information KonSULT help you to make this package more effective?

It might work inspirationally for choosing one or another individual measure. But it's not clear at this point where you might expect synergy of combining measures

b. Does the detailed information KonSULT gives about the package differ from your experience or expectations – if so, please say how.

No, but that's because of the rather generic description of the individual measures.

The description itself is very clear and to the point, but the context of this tool doesn't allow to get more specific details on scale of our own city or pilot project.

xxiii. Are you already considering implementing this package (i.e. prior to this exercise)?

No

a. If so, does KonSULT add to your understanding of the package?

- b. Does the information KonSULT gives about the package differ from your expectations– if so, please say how.
No, not really
- xxiv. Is the package one which you had not considered implementing, but which you might consider now?
No
 - a. If so, please outline why you might now consider it.
- xxv. Is the package one which you would not consider?
 - a. If so, please say why
 - b. Does the information KonSULT gives differ from your understanding of the package – if so, please say how.
- xxvi. This question applies only to packages of complementary measures. Do you think the package will improve the effectiveness of the measure for which you chose to seek complimentary measures?
No, not really. The effectiveness of measures and synergy between different measures are strongly influenced by the strategic choices that are already made on another level. konSULT offers in our opinion a good operational management tool for translate strategic choices toward effective measures, but is not responsible for the effectiveness.

C. Shortlisting measures and packages

1. a. Of your lists of measures, please note one or two *lists* which you would most like to consider implementing. In making your choice please note that it does not matter whether the list contains measures you have already implemented, or are already considering implementing.
List 1: future of urban highway B401, because it's also the central issue within our pilot SUMP project
- b. Please note the *individual* measures in this list/ these lists which you may consider implementing. You might include measures already implemented or those which you are already considering implementing. **Please say briefly why you have chosen these.**
All Land use measures: mix – public transport – bike networks. Because our pilot B401 is a lot wider than a short term traffic measure. Is not the question of tearing down the infrastructure itself, but more thinking about future opportunities for the city and surroundings.

The following questions apply only to those measures which you have shortlisted but **not** already implemented

- c. Are you aware of what the public, or sections of the public, might think about the measures (for instance, would they support the measures; would there be opposition?)
In Gent we already know very well that any measure concerning mobility and traffic will be confronted with lots of pro and cons.
- d. How might you test whether there is public support for the measures?
This depends on the content of the measure and the area where it effects on. In Gent we have a strong tradition on stakeholder involvement. We are not looking for “support” but rather seeking “legitimism” for our measurements

e. Would implementing the measures require cooperation of more than one institution (for instance, would it require two local authorities to agree)?

Yes,

In Belgium it is common that urban mobility is not exclusively organized by the local government. So, yes other partners like the public transport company and the regional government should be involved in most of the generated measures.

f. If the answer to e is yes, please note what this cooperation would involve.

For example the urban highway B401 is owned by the regional government. So making decisions on its future, should be in cooperation with the Flemish road administration.

2. a. Of your packages, please note one or two which you would most like to consider implementing. **Please say briefly why you have chosen these.**

As we already mentioned, packages are considered as the result of an operational but useful exercise. Stakeholder involvement will be only organized on a strategic level (SUMP) for the total of the measurements. And on the operational level, measure by measure .

In making your choice please include at least one package which you have not already implemented, or have already been considering implementing.

b. Are you aware of what the public, or sections of the public, might think about the package(s) chosen?

c. How might you test whether there is public support for the package(s)

d. Would implementing the package(s) require cooperation of more than one institution (for instance, would it require two local authorities to agree?)?

e. If the answer to (e) is yes, please note what this cooperation would involve.

Annex 9: Test report from Krakow

[longer tables have been abridged; the full version is available from the authors]

A. Developing a measure catalogue via KonSULT

You can find the KonSULT tool at <http://www.konsult.leeds.ac.uk>. We suggest that you focus on the Measure Option Generator (the top tab on the left hand side of the home page). However you may wish to look at the Policy Guidebook or the Decision-Makers' Guidebook. There are links to further information on using all of these on the home page.

We suggest that you experiment with the KonSULT tool to see the different methods of generating measure and package options, and to find the approach(es) that you think most useful. You will find guidance notes within the website which explain what you can do, and how KonSULT generates the suggestions which it makes.

I. First please enter the Measure Option Generator and use KonSULT to generate one or more lists of measures. You can generate a list which takes account of *either* your city's objectives, problems or indicators. You can consider your whole city or focus on a particular part of it. If you wish, you can identify measures which contribute to a specific strategy.

Please specify each list in the format indicated below. You can add one or more lists – ***please number each list (list 1; list 2 etc.):***

Note the 'area type' you chose

Tourist town

Note the objectives or problems or indicators, and the importance that each is given

Problems:

Congestion [4]
Community Impacts [1]
Environmental Damage [5]
Poor Accessibility [3]
Social and Geographic disadvantaging [2]
Accidents [1]
Suppression of Economic Activity [1]

Note the strategies you chose and the importance that each is given (or note if you chose 'any strategy')

Reducing the need to travel [1]
Reducing Car Use [5]
Improving the Use of Road Space [5]
Improving the use of Public Transport [2]
Improving walking and cycling [3]
Improving Freight [2]

Note the list of measures you generate

rank	code	category	cost	timescale	measure	score
1	101	Land Use Measures	high	long	Development density and mix	29
2	102	Land Use Measures	neutral	long	Land use to support public transport	29
3	208	Infrastructure	medium	medium	Cycle networks	23
4	209	Infrastructure	medium	medium	Pedestrian areas & routes	23
5	305	Management and service measures	medium	short	Accident remedial measures	20
6	603	Pricing	neutral	short	Parking charges	20
7	605	Pricing	neutral	medium	Road user charging	20
8	407	Attitudinal and behavioural measures	medium	medium	Bike sharing	18
9	318	Management and service measures	medium	short	Segregated cycle facilities	18
10	304	Management and service measures	medium	medium	Intelligent transport systems	18
11	301	Management and service measures	medium	short	Road maintenance	16
12	401	Attitudinal and behavioural measures	low	short	Promotional activities	16
13	404	Attitudinal and behavioural measures	low	short	School travel plans	15
14	303	Management and service measures	medium	medium	Urban traffic control	15
15	309	Management and service measures	low	short	Regulatory restrictions	14
16	204	Infrastructure	high	medium	New rail stations and lines	14
17	206	Infrastructure	medium	medium	Park & ride	12
18	509	Information	medium	short	Barrier-free mobility	11

rank	code	category	cost	timescale	measure	score
19	311	Management and service measures	low	short	Parking controls	11
20	103	Land Use Measures	low	long	Parking standards	10

You can find out more about any of the measures by clicking on it. This will take you straight to the relevant entry in the Policy Guidebook.

2. Packaging measures. Beginning with each list of measures, please generate some packages (you can get to the packaging pages by clicking the 'package option generator' button above the list of measures). The package option generator allows you to choose whether to seek measures which complement a given policy measure, or to create packages of up to five measures from a chosen list. To simplify the latter, only 10 measures can be shortlisted. In either case you can choose measures which help overcome barriers to implementation, or ones which reinforce each other (by creating synergy).

Please specify each package in the format indicated below (again you can add one or more packages).

In each case please specify which list of measures is used to generate the package i.e. list 1; list 2...; and please number the packages so that you have, for instance list 1, package 1; list 1 package 2; list 2, package 3)

Note whether you chose 'complementary measures' or 'packages'

Packages

If you chose complementary measures:

- d. Please specify the single measure for which you wanted to identify complementary measures
- e. Note whether you chose 'barrier' or 'synergy'
- f. Please note the ranked combinations

n/a

If you chose packages:

- g. Note whether you chose 'barrier' or 'synergy'
- h. Please note the measures that you chose to consider and the size of the package

i. Please note the ranked packages

- a) Barrier
- b) Size – 5
- Measures:
- 1) Land use to support PT
 - 2) Pedestrian areas & routes
 - 3) Development density and mix
 - 4) Cycle networks
 - 5) Intelligent transport systems
 - 6) Accidental remedial measures
 - 7) Road user charging
 - 8) Bike sharing
 - 9) Segregated cycle facilities
 - 10) Promotional activities
- c) First 20 packages (252 total generated):

Rank	Measure1	Measure2	Measure3	Measure4	Measure5	Total
1	Cycle networks	Accident remedial measures	Pedestrian areas & routes	Land use to support public transport	Bike sharing	7
2	Development density and mix	Cycle networks	Accident remedial measures	Pedestrian areas & routes	Land use to support public transport	6
3	Development density and mix	Accident remedial measures	Pedestrian areas & routes	Land use to support public transport	Bike sharing	6
4	Cycle networks	Accident remedial measures	Pedestrian areas & routes	Land use to support public transport	Promotional activities	6
5	Cycle networks	Accident remedial measures	Intelligent transport systems	Pedestrian areas & routes	Land use to support public transport	6
6	Accident remedial measures	Pedestrian areas & routes	Land use to support public transport	Promotional activities	Bike sharing	6
7	Development	Accident remedial	Pedestrian areas	Land use to support public	Promotional	6

	density and mix	measures	& routes	transport	activities	
8	Accident remedial measures	Intelligent transport systems	Pedestrian areas & routes	Land use to support public transport	Bike sharing	6
9	Development density and mix	Accident remedial measures	Intelligent transport systems	Pedestrian areas & routes	Land use to support public transport	6
10	Cycle networks	Accident remedial measures	Segregated cycle facilities	Pedestrian areas & routes	Land use to support public transport	6
11	Accident remedial measures	Intelligent transport systems	Pedestrian areas & routes	Land use to support public transport	Promotional activities	5
12	Accident remedial measures	Segregated cycle facilities	Pedestrian areas & routes	Land use to support public transport	Bike sharing	5
13	Development density and mix	Accident remedial measures	Segregated cycle facilities	Pedestrian areas & routes	Land use to support public transport	5
14	Development density and mix	Cycle networks	Pedestrian areas & routes	Land use to support public transport	Bike sharing	5
15	Cycle networks	Accident remedial measures	Road user charging	Pedestrian areas & routes	Land use to support public transport	5
16	Accident remedial measures	Segregated cycle facilities	Pedestrian areas & routes	Land use to support public transport	Promotional activities	5
17	Development density and mix	Cycle networks	Accident remedial measures	Pedestrian areas & routes	Bike sharing	5
18	Accident remedial	Road user charging	Pedestrian areas & routes	Land use to support public	Bike sharing	5

	measures			transport		
19	Accident remedial measures	Intelligent transport systems	Segregated cycle facilities	Pedestrian areas & routes	Land use to support public transport	5
20	Development density and mix	Accident remedial measures	Road user charging	Pedestrian areas & routes	Land use to support public transport	5

B. Assessing the lists of measures and packages of measures

We would like you to critically assess the measures and packages that you have generated using KonSULT. Please try to respond to each point giving as much or as little detail as you think appropriate.

1. For each list of measures, please comment on the following points (please clearly say which list you are referring to, e.g. list 1; list 2):

Does the list include measures you have already adopted –if so please specify which measures.

- c. If so, does the detailed information KonSULT gives about the measure in the Policy Guidebook add to your understanding of the measure?

Already adopted measures:

- Cycle networks
 - Pedestrian areas and routes
 - Parking charges
 - Bike sharing
 - Segregated cycle facilities
 - Intelligent transport systems
 - Road maintenance
 - Promotional activities
 - Urban traffic control
 - Park & Ride
 - Parking controls
 - Trip planning systems
 - Fare levels
 - Conventional signs & markings
 - Integrated ticketing
 - Traffic calming measures
 - Demand responsive transport
 - Variable Message signs
- a) Detailed information adds to the understanding of the measures – especially concerning organized terminology, evidence of performance (examples) and graphs/tables.

Does the detailed information KonSULT gives about the measure in the Policy Guidebook differ from your experience of the measure – if so, please say how.

Does the list include any measures which you are already considering - if so please specify which measures.

- d. If so, does the detailed information KonSULT gives about the measure in the Policy Guidebook add to your understanding of the measure?
- e. Does the detailed information KonSULT gives about the measure in the Policy Guidebook conflict with your expectations of the measure – if so, please say how.

Measures considered:

- Development density and mix
 - Road user charging
 - School travel plans
 - New rail stations and lines
 - Company travel plans
 - Parking guidance systems
 - Cycle parking & storage
 - Light rail systems
 - Low emission zones
- a) As above, KonSULT provides a lot of good information needed to better understand the certain measure

Does the list include measures which you had not previously considered adopting, but which you might now consider adopting? If so, please say which measures.
f. Please outline why you might now consider them.

- Land use to support public transport
- Bus rapid transit
- Flexible working hours
- HOV lanes
- a) These are complementary measures, in some cases considered in the past, but abandoned. They might be re-considered taking into account additional information and sources provided in KonSULT and possibilities to be introduced in the current development stage.

Does the list include any measures which you would not consider - if so please specify which measures.

- g. Please say why these measures would not be considered
- h. Does the detailed information KonSULT gives about the measure in the Policy Guidebook differ from your experience of the measure – if so, please say how.

- a) Rather not such measures – each measure could be considered
- b) No such experience – no ‘conflict’

2. For each package of measures, please comment on the following points as applicable (please clearly say which list you are referring to, e.g. package 1; package 2):

Have you already implemented all of this package of measures?

- a. If so, does the detailed information KonSULT gives about the measures in the package add to your understanding of the package?

- b. Does the detailed information KonSULT gives about the measures in the package differ from your experience – if so, please say how.

Package 1 – all measures implemented already

Package 2 – all measures implemented already **except Development density and mix**

Package 3 - all measures implemented already **except Development density and mix**

Packages 4 -6 all measures implemented already

Package 7 - all measures implemented already **except Development density and mix**

Package 8 - all measures implemented already

Package 9 - all measures implemented already **except Development density and mix**

Packages 10 – 12 - all measures implemented already

Packages 13 – 14 - all measures implemented already **except Development density and mix**

Package 15 - all measures implemented already **except Road user charging**

Package 16 - all measures implemented already

Package 17 - all measures implemented already **except Development density and mix**

Package 18 - all measures implemented already **except Road user charging**

Package 19 - all measures implemented already

Have you already implemented part of this package of measures?

- c. If so, does the detailed information KonSULT gives about the measures in the package help you to make this package more effective?
- d. Does the detailed information KonSULT gives about the measures in the package differ from your experience or expectations – if so, please say how.

As described above, most of the measures included in 20 first packages have been already implemented. The scores for these 20 packages differ from 5-7, so it is difficult to say clearly what is the difference in the effectiveness of the packages (i.e. many packages with same score).

Are you already considering this package?

- e. If so, does KonSULT add to your understanding of the package?
- f. Does the information KonSULT gives about the measures in the package differ from your expectations – if so, please say how.

There was no consideration of “packaging” so far, measures are rather considered and developed separately.

Is the package one which you had not considered implementing, but which you might consider now?

g. If so, please outline why you might now consider it.

As described above, most of the measures included in 20 first packages have been already implemented

Is the package one which you would not consider?

h. If so, please say why

i. Does the information KonSULT gives differ from your understanding of the measures in the package – if so, please say how.

Main problem comes with packages containing Road user charging – not possible in the current law status in Poland.

C. Shortlisting measures and packages

- a. Of your lists of measures, please note one or two *lists* which you would most like to consider implementing. In making your choice please note that it does not matter whether the list contains measures you have already implemented, or are already

- Land Use Measures
- Cycle networks
- Road user charging
- School travel plans
- Park & Ride
- Company travel plans
- Flexible working hours

considering implementing.

- b. Please note the *individual* measures in this list/ these lists which you may consider implementing. You might include measures already implemented or those which you are already considering implementing. **Please say briefly why you have chosen these.**

- Road user charging – as the parking fares are quite low (regulated by the national law) – more fiscal/payment measures shall be implemented in order to push cars away from the historical city centre
- School travel plans – we have some experiences within STARS Europe Project, it seems it works quite well, especially concerning cycling to schools. Considering number of schools in Krakow (ca.450) there might be a huge impact on the traffic/modal split taking into account especially primary schools and parents going by car with their kids
- Park & Ride – ca. 19% of car traffic is generated by cars from outside of Krakow
- Flexible working hours – not very popular so far, could have an impact on the rush hours

The following questions apply only to those measures which you have shortlisted but **not** already implemented

- q. Are you aware of what the public, or sections of the public, might think about the measures (for instance, would they support the measures; would there be opposition?)

a) There is no really data available (i.e. surveys) concerning some new ideas/measures and the public opinion

- r. How might you test whether there is public support for the measures?

One of the ideas is to use our local magazine "Krakow.PL" in order to introduce/explain some new ideas and ask readers to provide feedback (i.e. via local city website and surveys available to be put on-line). We could also use our Mobility Forum in order to discuss new measures with the wide public. Also an article in local newspaper could be drafted together with journalists dealing with urban transport issues.

- s. Would implementing the measures require cooperation of more than one institution (for instance, would it require two local authorities to agree)?

Rather not needed

- t. If the answer to (c) is yes, please note what this cooperation would involve.

-

c. Of your packages, please note one or two which you would most like to consider implementing. **Please say briefly why you have chosen these.** Please include at least one package which you have not already implemented, or have already been considering implementing.

- q. Are you aware of what the public, or sections of the public, might think about the package(s) chosen?

For packages situation is similar to measures concerning public opinion and cooperation.

D. Comments on the website

Please let us have your comments on the ease with which you were able to use the website, and its attractiveness. Are there improvements which you think that we should make?

In using the Policy Guidebook, were there case studies of particular measures that you think we could usefully include? If so, please let us have details.

KonSULT provides nice features and a lot of insight information on particular measures. The most critical part is the generation of lists of measures – there are too many on the list. In my opinion there shall be up to 10 main measures (with highest scores) and possibly additional list of complementary measures – to be considered. It shall be also explained why such score was obtained for a certain measure, and how it was affected by preliminary choices of problems/objectives/etc. Generally – whole idea of the lists and scores shall be simplified. Anyhow decision of the certain measures implementation is very much depending on the local circumstances/law possibilities/political framework and stage of overall development of the city. Maybe a factor of cost and timescale shall be also described more precisely (i.e by thresholds of price in Euro/timescale in months/years).

The most problematic issue was concerning packages of measures – what does it really mean to have a package generated? This was not clear. Also scoring system for packages is not clear, and as mentioned above, it is difficult to make difference in the assessment of many packages.

Annex 10: Test report from Timisoara

[longer tables have been abridged; the full version is available from the authors]

A. Developing a measure catalogue via KonSULT

1. List of measures

List 1 This list was based on our Monitoring and Evaluation Plan

Area type: any area type

Objectives:

Efficiency [5]

Liveable streets [5]

Strategies:

Improving walking and cycling [5]

Improving public transport [5]

The list of measures:

rank	code	category	cost	timescale	measure	score
1	605	Pricing	neutral	medium	Road user charging	55
2	102	Land Use Measures	neutral	long	Land use to support public transport	48
3	209	Infrastructure	medium	medium	Pedestrian areas & routes	44
4	208	Infrastructure	medium	medium	Cycle networks	37
5	309	Management and service measures	low	short	Regulatory restrictions	36
6	101	Land Use Measures	high	long	Development density and mix	36
7	311	Management and service measures	low	short	Parking controls	32
8	404	Attitudinal and behavioural measures	low	short	School travel plans	30
9	303	Management and service measures	medium	medium	Urban traffic control	29
10	305	Management and service measures	medium	short	Accident remedial measures	28
11	204	Infrastructure	high	medium	New rail stations and lines	28
12	407	Attitudinal and behavioural measures	medium	medium	Bike sharing	28
13	205	Infrastructure	medium	medium	Bus rapid transit	27
14	402	Attitudinal and behavioural measures	low	short	Personalised journey planning	24
15	507	Information	low	short	Trip planning systems	24
16	606	Pricing	medium	short	Fare levels	22
17	319	Management and service measures	low	short	Cycle parking & storage	22
18	203	Infrastructure	high	long	Light rail systems	22
19	609	Pricing	low	medium	Integrated ticketing	22
20	403	Attitudinal and behavioural measures	low	short	Company travel plans	20

Code: Yellow: already in use; Blue: under consideration; Green: not considered, but identified in KonSULT as useful

2. Packaging measures

List 1, package 1

Tool: packages

If you chose packages:

j. Method: barrier

k. Size of package: 2

l. measures chosen: - Cycle networks

i. Urban traffic control

ii. New rail stations and lines

iii. Bike sharing

iv. Integrated ticketing

m. The ranked package:

Rank	Measure1	Measure2	Total
1	Cycle networks	Urban traffic control	28
2	New rail stations and lines	Cycle networks	26
3	Cycle networks	Bike sharing	26
4	Urban traffic control	Bike sharing	24
5	New rail stations and lines	Urban traffic control	24
6	Cycle networks	Integrated ticketing	22
7	New rail stations and lines	Bike sharing	22
8	Urban traffic control	Integrated ticketing	21
9	Bike sharing	Integrated ticketing	19
10	New rail stations and lines	Integrated ticketing	19

B. Assessing the lists of measures and packages of measures

1. List 1:

Does the list include measures you have already adopted: yes

Measures adopted: - Pedestrian areas & routes

- Cycle networks
- Real time passenger information
- Parking charges
- Conventional timetable & service information
- Traffic calming measures
- New road construction

- i. If so, does the detailed information KonSULT gives about the measure in the Policy Guidebook add to your understanding of the measure? **Yes, the KonSULT platform is very useful to us, especially because it gives us clear and in detail definitions, so that all the members of the team could have a clear understanding of the theoretical meaning of the definitions.**

- j. Does the detailed information KonSULT gives about the measure in the Policy Guidebook differ from your experience of the measure – if so, please say how.

No

Does the list include any measures which you are already considering: yes

Measures: - Urban traffic control

- Bike sharing
- Personalised journey planning
- Trip planning systems
- Integrated ticketing
- Park and ride
- Bus priorities
- Variable message signs

- k. If so, does the detailed information KonSULT gives about the measure in the Policy Guidebook add to your understanding of the measure? Yes, the KonSULT platform is very useful to us, especially because it gives us clear and in detail definitions, so that all the members of the team could have a clear understanding of the theoretical meaning of the definitions.

- l. Does the detailed information KonSULT gives about the measure in the Policy Guidebook conflict with your expectations of the measure – if so, please say how. No

Does the list include measures which you had not previously considered adopting, but which you might now consider adopting? If so, please say which measures.

Yes. Cycling parkage and storage

m. Please outline why you might now consider them.

In Timisoara there has been a significant increase in number of cyclists during the last few years. So, this measure seems to be of much help under these circumstances.

Does the list include any measures which you would not consider - if so please specify which measures. No

n. Please say why these measures would not be considered

- o. Does the detailed information KonSULT gives about the measure in the Policy Guidebook differ from your experience of the measure – if so, please say how.

2. Package 1

Have you already implemented all of this package of measures?

- j. If so, does the detailed information KonSULT gives about the measures in the package add to your understanding of the package?
- k. Does the detailed information KonSULT gives about the measures in the package differ from your experience – if so, please say how.

Have you already implemented part of this package of measures? Yes, we have several of the measures implemented, and part of them we are about to implement.

- l. If so, does the detailed information KonSULT gives about the measures in the package help you to make this package more effective? Yes, because it helps us combining the measures in a more effective way.

- m. Does the detailed information KonSULT gives about the measures in the package differ from your experience or expectations – if so, please say how. **No**

Are you already considering this package?

- n. If so, does KonSULT add to your understanding of the package?
o. Does the information KonSULT gives about the measures in the package differ from your expectations– if so, please say how.

Is the package one which you had not considered implementing, but which you might consider now?

- p. If so, please outline why you might now consider it.

Is the package one which you would not consider?

- q. If so, please say why
r. Does the information KonSULT gives differ from your understanding of the measures in the package – if so, please say how.

C. Shortlisting measures and packages

- a. Of your lists of measures, please note one or two *lists* which you would most like to consider implementing. In making your choice please note that it does not matter whether the list contains measures you have already implemented, or are already considering implementing. **List 1**

- b. Please note the *individual* measures in this list/ these lists which you may consider implementing. You might include measures already implemented or those which you are already considering implementing. **Please say briefly why you have chosen these.**

Individual measures:

- Pedestrian areas & routes – implemented measure
- Cycle networks– implemented measure
- Real time passenger information– implemented measure
- Parking charges– implemented measure
- Conventional timetable & service information– implemented measure
- Traffic calming measures– implemented measure
- New road construction– implemented measure
- Urban traffic control – under implementation
- Bike sharing – consider to implement
- Integrated ticketing –under implementation
- Variable message signs – under implementation

The following questions apply only to those measures which you have shortlisted but **not** already implemented

- u. Are you aware of what the public, or sections of the public, might think about the measures (for instance, would they support the measures; would there be opposition?)

If all these measures will be properly explained to the public, especially the parts regarding the ways these measures will ease the traffic and reduce the time spent in traffic, the public will support it. Our main challenge is to convince public to use these new measures at their full capacity.

- v. How might you test whether there is public support for the measures?

Organizing public consultations and debates.

- w. Would implementing the measures require cooperation of more than one institution (for instance, would it require two local authorities to agree)?

Yes, for example urban traffic control requires the cooperation between City Hall, Police, Public Transport Operator and other public institutions.

- x. If the answer to (c) is yes, please note what this cooperation would involve.

The cooperation will involve the data exchange, know transfer, having representatives of these institutions working together in the same office.

- c. Of your packages, please note one or two which you would most like to consider implementing.

Please say briefly why you have chosen these. Please include at least one package which you have not already implemented, or have already been considering implementing.

Packages most like to consider implementing:

1	Cycle networks	Urban traffic control
4	Urban traffic control	Bike sharing

Package 1 – partially implemented

Package 4 – consider implementing

- r. Are you aware of what the public, or sections of the public, might think about the package(s) chosen?

If all the packages will be properly explained to the public, especially the parts regarding the ways they will ease the traffic and reduce the time spent in traffic, the public will support it.

- s. How might you test whether there is public support for the package(s)

- t. Would implementing the package(s) require cooperation of more than one institution (for instance, would it require two local authorities to agree?)?

Yes, for example urban traffic control requires the cooperation between City Hall, Police, Public Transport Operator and other public institutions.

- u. If the answer to (c) is yes, please note what this cooperation would involve.

The cooperation will involve the data exchange, know transfer, having representatives of these institutions working together in the same office.

D. Comments on the website

Please let us have your comments on the ease with which you were able to use the website, and its attractiveness. Are there improvements which you think that we should make?

In using the Policy Guidebook, were there case studies of particular measures that you think we could usefully include? If so, please let us have details.

It is very useful. For us this is the first instrument of such kind we are working with.

Annex 11: Test report from West Yorkshire

[Note: this is an abridged version; the full version is available from the authors.]

Introduction

This document presents and assesses the measure catalogue created by the West Yorkshire Combined Authority (WYCA) using the KonSULT tool, as part of Ch4llenge Workpackage 4.

The measure catalogue was created from four lists of measures, which took into account the objectives emerging from the Third West Yorkshire Local Transport Plan (LTP3) –the SUMP currently in effect in the Region– as well as the Single Transport Plan 2016-2036 which is being developed to replace the former.

The structure of the document follows the template provided; after a brief description of the parameters used to generate the lists, we made an assessment of each in the terms specified by the template. Then, the different packages generated from each list are analysed. Finally, the preferred measures and packages are shortlisted. Feedback on the use of the KonSULT tool is provided at the end.

List 1 Parameters

List 1 was generated taking account of the current West Yorkshire Local Transport Plan's objectives. The parameters used to generate List 1 and the weights^(*) assigned to each depending on their relative importance are shown below.

LIST 1: PARAMETERS		
<i>i. Area type</i>	Any area type	
<i>ii. Objectives</i>	Efficiency	5
	Liveable Streets	3
	Protection of the environment	3
	Equity and social inclusion	3
	Safety	3
	Economic Growth	5
	Finance	0
<i>iii. Strategy</i>	Any strategy	

(*) Weights from 0-5, where 0= do not use; 1=low importance; 5=high importance

List 1 Measures

- i. Of the 61 measures generated by KonSULT, 53 have already been adopted in West Yorkshire as part of previous sustainable urban mobility plans. These are included in the table below:

LIST 1: Measures already adopted by the WYCA			
rank	code	measure	score
1	209	Pedestrian areas & routes	67
2	102	Land use to support public transport	58
3	101	Development density and mix	55
5	304	Intelligent transport systems	52
6	407	Bike sharing	47
7	208	Cycle networks	46
9	204	New rail stations and lines	45
10	305	Accident remedial measures	45
11	103	Parking standards	43
14	403	Company travel plans	40
15	609	Integrated ticketing	38
16	404	School travel plans	38
17	205	Bus rapid transit	37
18	317	Bus regulation	37
19	311	Parking controls	37
20	303	Urban traffic control	36

The information provided by KonSULT is not significantly different from the understanding that the WYCA had of the measures, or our experience in implementation. However, we can make a few observations:

- Of KonSULT's top ten, 6 are in the list above, and 13 among the top 20, suggesting that the individual measures already adopted in West Yorkshire are in the right direction in terms of achieving the LTP3's objectives.
- It is noted that *conventional traffic management* has a negative score, indicating a negative contribution to the objectives selected. However this seems to be based on the evidence provided by the two case studies documented in KonSULT, rather than a general unsuitability of this measure to achieve the objectives selected.
- The high score of *bike sharing* is quite unexpected. Given that the main objectives set out in this exercise were economic growth and safety, it is surprising that this measure ranks so high, especially when according to the case studies cited in KonSULT, evidence of its contribution to these two objectives, and particularly to economic growth, is rather limited. The argument that the city coverage that bike sharing can provide might contribute to economic growth is arguable, since increase in sales in a given area would only be at the expense of decrease in another.
- *Parking guidance systems* score higher than *trip planning systems*, when the former could be considered a component of the latter.

At this point it should be noted that the WYCA is not a land use planning authority; therefore, the implementation of land use measures can only be influenced. However, ensuring that the Local Transport Plan supports the wider economic, social, public health and environmental policies is amongst the WYCA's statutory duties, and as such is included within the strategic proposals of the current LTP3.

The Single Transport Plan 2016-2036 –the plan that will come to replace the LTP3– will integrate the current Transport Plan with a range of other strategies and programmes, such as the Strategic Economic Plan, which has among its priorities the delivery of new infrastructure to support growth. This will make the Single Transport Plan a stronger instrument to influence future development while supporting sustainable transport, and will give the WYCA more capacity to do so.

- ii. Apart from further development of most of the measures included in the table above as part of its LTP3, the WYCA is considering the implementation of the measures listed in the table below.

LIST 1: Measures being considered by the WYCA			
rank	code	measure	score
13	203	Light rail systems	40
25	312	New rail services	33
53	508	Crowd sourcing	14
58	310	Low emission zones	9

The information provided by KonSULT is not essentially different from the knowledge that the WYCA had of the measures, nor does it significantly differ from the WYCA's expectations of the measures.

- iii. The list does not include any measures that the WYCA has not previously considered and might now consider adopting.
- iv. There are a number of measures that the WYCA would not consider –at least at this point in time. These are included in the table below.

LIST 1: Measures not contemplated by the WYCA			
rank	code	measure	score
4	605	Road user charging	4
8	309	Regulatory restrictions	8
12	601	Vehicle ownership taxes	12
35	602	Fuel taxes	35

- The WYCA would not consider these measures for different reasons:
 - Vehicle ownership taxes* and *fuel taxes* are out of the scope of the Combined Authority
 - Road user charging* and *regulatory restrictions* have historically been seen as politically unacceptable, not only because leaders oppose measures that limit people's individual choices and freedom of movement, but mainly because of the potential impact that imposing these measures would have on the economy.

It has to be noted though, that in the longer term strong forms of demand management such as *road user charging* and *regulatory restrictions* could be an option for consideration, but only if the levels of congestion and the economic and policy context advised so.

- The information provided by KonSULT does not significantly differ from the WYCA's experience and knowledge of the measures.

List 1 Packages

List 1 Package 1

This package was generated using the “packages” tool. The measures considered for inclusion were the highest ranked ten also aligned with the West Yorkshire LTP3 Strategic Proposals.

Details on the parameters specified as well as the list of ranked packages generated by KonSULT can be found in the full report.

LIST 1 PACKAGE 1	
Measure1	New rail stations and lines
Measure2	Intelligent transport systems
Measure3	Pedestrian areas & routes
Measure4	Land use to support public transport
Score	58

This package has already been implemented by the WYCA and the information provided by KonSULT does not add to our understanding of the measures. In relation to the WYCA's experience of the measures, we can make the following observations:

- The contribution of intelligent transport systems to the economic growth and efficiency objectives has not been as important as one would expect after reading the information in the *KonSULT Policy Guidebook*. However, it may be that their implementation in West Yorkshire has not yet reached a level that allows the Combined Authority to realise their full potential.
- Likewise, the impact of *pedestrian areas and routes* on the economic objectives is not anticipated to be as high as KonSULT predicts; this is due to the nature of the interventions, where the focus is to improve the accessibility to local/district centres and public transport hubs, rather than the pedestrianisation of extensive areas of the city centres.

List 1 Package 2

This package was generated using the “package” tool. We tried to include measures from all the different categories (those with the highest rank within each) also considered by the LTP3 Strategic Proposals.

Further details on the parameters specified as well as the list of ranked packages can be found in the full report.

LIST 1 PACKAGE 2	
Measure1	Intelligent transport systems
Measure2	Pedestrian areas & routes
Measure3	Land use to support public transport
Measure4	Bike sharing
Score	57

- The only difference between this package and the previous is the introduction of *bike sharing* in place of *new rail stations and lines*. However, their scores are very similar (57 and 58 respectively), which leads to believe that with this package of measures the same objectives could be achieved at a much lower cost.
- As was pointed out before, the score for *bike sharing* was expected to be lower than –and definitely very different from– *new rail stations and lines*. The results here again suggest that KonSULT is not able to assess the scale of the impacts.
- This package was introduced in West Yorkshire as part of previous LTPs, and the WYCA is going to continue to develop these measures in its LTP3.
- The information provided by KonSULT is not significantly different from the WYCA's understanding of the package.
- In our experience there are some differences in the contribution of intelligent transport systems to the objectives with regards to the predicted by KonSULT, which were commented earlier.

List 1 Package 3

This package was generated using the “package” tool. The measures considered for inclusion were the ten with the highest score in KonSULT.

Each of the parameters specified as well as the list of ranked packages can be found in the full report.

LIST 1 PACKAGE 3	
Measure1	Development density and mix
Measure2	Road user charging
Measure3	Pedestrian areas & routes
Measure4	Land use to support public transport
Score	59

- It is noted that this package has the highest score of all the packages generated from list 1, which is consistent with the criteria followed to include the measures.
- This is a package that the WYCA would not consider. Although 3 of the measures have been implemented as part of previous LTPs and will continue to be developed through the LTP3/Single Transport Plan, *road user charging* is not currently contemplated by the WYCA.

List 1 Package 4

This package was generated using the “package” tool, and the measures considered for inclusion were the ten with the highest rank from those with a low or neutral cost.

The parameters specified as well as the list of ranked packages can be found in the full report.

LIST 1 PACKAGE 4	
Measure1	Company travel plans
Measure2	Vehicle ownership taxes
Measure3	Road user charging
Measure4	Land use to support public transport
Score	51

This is a package that the WYCA would not implement, for the objections to pricing measures already mentioned.

List 1 Package 5

This package was generated using the “package” tool. The measures selected for inclusion were the same as for List 1 Package 3, with the difference that this time the “barrier” method was applied. See the full report for further details on the parameters used, as well as the ranked list of packages.

LIST 1 PACKAGE 5	
Measure1	Development density and mix
Measure2	Accident remedial measures
Measure3	Pedestrian areas & routes
Measure4	Land use to support public transport
Score	50

- This is the package with the lowest score amongst all the generated from list 1, suggesting a limited capacity to impact on the objectives selected.
- The WYCA has already implemented all of this package of measures.
- The information provided by KonSULT is not significantly different from the WYCA’s understanding of the package.
- The information given by KonSULT does not significantly differ from our experience. Small differences in relation to *pedestrian areas & routes* were commented earlier in the document.

List 1 Package 6

This package was generated using the “complementary” tool. The measure to complement was *pedestrian areas and routes* –the one with the highest individual score of those in list 1.

Further details on the parameters specified as well as the ranked list of complementary measures obtained can be found in the full report.

LIST 1 PACKAGE 6 (COMPLEMENTARY MEASURES)	
<i>Measure1</i>	Pedestrian areas & routes
<i>Measure2</i>	Land use to support public transport
<i>Score</i>	63

- This is a package of measures that has already been implemented by the WYCA, with the limitations indicated earlier in the report.
- The information provided by KonSULT does not add to our understanding of the package, nor does it differ from the WYCA experience.

List 2 Parameters

List 2 was based on the objectives emerging from the current Local Transport Plan. However, we tested the sensitivity of the tool by increasing the weight^(*) of the environmental objective from 3 to 5.

In this case, a specific strategy was also specified, with the criteria^(*) indicated in the table below.

LIST 2: PARAMETERS		
<i>i. Area type</i>	Any area type	
<i>ii. Objectives</i>	Efficiency	5
	Liveable Streets	3
	Protection of the environment	5
	Equity and social inclusion	3
	Safety	3
	Economic Growth	5
	Finance	0
<i>iii. Strategy</i>	Reducing the need to travel	0
	Reducing Car Use	5
	Improving the use of road space	3
	Improving the use of Public	5
	Improving walking and cycling	5
	Improving Freight	3

(*) Weights from 0-5, where 0= do not use; 1=low importance; 5=high importance

List 2 Measures

- i. List 2 includes the following measures that have already been implemented in West Yorkshire:

LIST 2: Measures already considered by the WYCA			
rank	code	measure	score
2	102	Land use to support public transport	35
3	209	Pedestrian areas & routes	33
5	101	Development density and mix	28
6	311	Parking controls	27
7	304	Intelligent transport systems	26
8	305	Accident remedial measures	26
9	208	Cycle networks	24
10	404	School travel plans	23
11	403	Company travel plans	23
12	204	New rail stations and lines	21
13	603	Parking charges	20
14	103	Parking standards	20
15	401	Promotional activities	20
16	407	Bike sharing	20
17	205	Bus rapid transit	19
18	303	Urban traffic control	19
19	317	Bus regulation	17
20	402	Personalised journey planning	16

- The rank of the measures is very similar to the obtained for List 1. However, there is a great variation in the scores assigned; for example, for the first twenty measures, the scores have fallen between 10 and 34 points with regards to list 1, suggesting a smaller capacity of the individual measures to contribute to the objectives selected in this scenario. The reason seems to be that in this case several restrictions were imposed to the strategy, by selecting a set of very ambitious criteria.
- The information provided by KonSULT is not significantly different from the understanding that the WYCA had of the measures, nor does it substantially differ from the WYCA's experience.

- ii. The new scores for the measures currently being considered by the WYCA is as follows:

LIST 2: Measures being considered by the WYCA			
rank	code	measure	score
13	203	Light rail systems	40
25	312	New rail services	33
53	508	Crowd sourcing	14
58	310	Low emission zones	9

With the exception of *light rail systems*, which goes up from position 21 to position 13, the rank of the measures does not significantly vary with respect to list 1. But as happened before, their scores fall considerably, suggesting that their capacity to contribute to the objectives would be rather limited.

- iii. The list does not include any measures that the WYCA had not previously considered and might now consider adopting.

List 3 Parameters

List 3 was based on new objectives, emerging from the ongoing development of a new Single Transport Plan for the period 2016-2036, which will replace the existing LTP3.

The following parameters and weights^(*) were selected.

LIST 3: PARAMETERS		
<i>i. Area type</i>	Any area type	
<i>ii. Objectives</i>	Efficiency	5
	Liveable Streets	5
	Protection of the environment	5
	Equity and social inclusion	3
	Safety	3
	Economic Growth	5
	Finance	0
<i>iii. Strategy</i>	Any strategy	

(*) Weights from 0-5, where 0= do not use; 1=low importance; 5=high importance

List 3 Measures

- i. Of the list of measures generated by KonSULT, 48 have already been applied in West Yorkshire. These and their new scores are shown in the table below.

LIST 3: Measures already considered by the WYCA			
rank	code	measure	score
1	209	Pedestrian areas & routes	71
2	102	Land use to support public transport	62
3	101	Development density and mix	56
5	208	Cycle networks	48
6	304	Intelligent transport systems	48
8	407	Bike sharing	46
9	305	Accident remedial measures	45
10	204	New rail stations and lines	44
11	103	Parking standards	44
13	404	School travel plans	40
15	403	Company travel plans	40
16	311	Parking controls	38

LIST 3: Measures already considered by the WYCA			
rank	code	measure	score
17	401	Promotional activities	38
18	609	Integrated ticketing	37
19	606	Fare levels	36
20	205	Bus rapid transit	36

We can make the following observations in relation to this list:

- Both the ranking of the measures and their individual scores are rather similar to those obtained for List 1, suggesting the two lists have similar capacity to contribute to the objectives set out by both plans.
 - Thus, from List 3's top twenty measures, there are only two that were not included in List 1's top twenty, the most significant change being promotional activities, which goes up 6 positions. Even so, the difference in score is not greater than 4 in any case.
 - Conventional traffic management scores negatively again, suggesting this would add up to the problems rather than the solutions. It is also interesting to note that from all the scenarios analysed up to now, this is the one for which this measure scored the lowest.
 - The information provided by KonSULT is not different from the understanding that the WYCA had of the measures, nor does it differ from the WYCA's experience of the measures, with the exceptions indicated in previous sections.
- ii. The following measures are currently being contemplated by the WYCA in the Single Transport Plan. We considered interesting to include all of the measures under consideration at this point in time, even if some of them have already been implemented as part of previous LTPs and are therefore included in the previous list.

LIST 3: Measures being considered by the WYCA			
rank	code	measure	score
5	208	Cycle networks	48
6	304	Intelligent transport systems	48
8	407	Bike sharing	46
10	204	New rail stations and lines	44
14	203	Light rail systems	40
17	401	Promotional activities	38
18	609	Integrated ticketing	37
20	205	Bus rapid transit	36
23	317	Bus regulation	35
24	303	Urban traffic control	34
25	312	New rail services	32
26	402	Personalised journey planning	32
30	313	Bus services	28

39	301	Road maintenance	24
41	405	Promoting low carbon vehicles	22
43	505	Conventional timetable & service information	22
46	509	Barrier-free mobility	20
48	323	Road freight fleet management systems	20
50	506	Real time passenger information	20
53	310	Low emission zones	14
55	508	Crowd sourcing	12
60	201	New road construction	4

- As happened before, the ranking of the measures is very similar to that in list 1. The greatest change is for *promoting low carbon vehicles*, which goes up 10 positions.
 - Of the top 20 measures, 16 have already been implemented or are under consideration, suggesting a good match between the Single Transport Plan and the objectives it addresses.
 - The information contained in KonSULT does not add up to the understanding that the WYCA had of the measures.
 - In general terms, the information contained in the *Policy Guidebook* does not differ from the WYCA's understanding of the measures; however we can point out some differences, for example in relation to the measure new stations and lines –one of the key measures considered for the delivery of the Single Transport Plan:
 - The *Policy Guidebook* states that “new stations, on their own, do not add to the capacity of the rail network”. However when services are close to capacity, the provision of new stations with longer platforms facilitates the addition of extra carriages, which in effect is a way to do so.
 - Regeneration issues are not explicitly considered in KonSULT –An additional reason for the WYCA to propose the construction of new railway stations is regeneration, with the station acting as a driver to attract economic growth in the area.
 - Similarly, the WYCA's vision for connectivity is based on the concept of hubs, where new stations and services play an important role as facilitators of enhanced integration between the rail and other modes, and particularly the public transport network. It is therefore expected that investment in new stations and lines has a positive impact on the efficiency of the network as a whole. Thus, apart from providing accessibility to the network, new stations and lines are important for the WYCA to the extent that they provide also better connectivity between existing origins and destinations.
- iii. The list does not include any measures that the WYCA had not previously considered adopting and might now consider adopting.
- iv. The list include the following measures that the WYCA would not consider:

LIST 3: Measures not contemplated by the WYCA			
rank	code	measure	score
4	605	Road user charging	55
7	309	Regulatory restrictions	48
12	601	Vehicle ownership taxes	41
35	602	Fuel taxes	25

As happened with list 1, three of the measures above are ranked among the top ten, indicating that individually considered, their relative performance in the context specified is high.

However, these are measures that the WYCA in principle would not consider, for the reasons already explained. The observations made there about the possible inclusion of these measures in future plans are also applicable here.

List 3 Packages

List 3 Package 1

This package was generated using the “package” tool. The measures considered for inclusion were the ten with the highest score and also considered by the Single Transport Plan, under the “synergy” option.

Further details on the parameters selected and the list of ranked packages can be found in the full report.

LIST 3 PACKAGE 1	
Measure1	New rail stations and lines
Measure2	Light rail systems
Measure3	Cycle networks
Measure4	Intelligent transport systems
Measure5	Bike sharing
Score	51

- This is a package that the WYCA has partially implemented. Measures 1, 3, 4 and 5 are already in place and are going to be developed further.
- The information given in KonSULT does not significantly differ from the WYCA’s experience or expectations. For further details we refer to previous lists’ assessments.
- KonSULT may help make the package more effective to the extent that the detailed information about the measures may help identify the best approach to each in order to maximise the outcomes. However, the interrelations between the measures do not appear explicitly in KonSULT, which makes difficult for the planner to undertake an “integrated” approach to packages.

List 3 Package 2

This package was generated using the “package” tool. Ten arbitrary measures, all of them considered within the Single Transport Plan were considered for inclusion.

Further details on the input as well as the list of ranked packages can be found in Annex 1.

LIST 3 PACKAGE 2	
Measure1	Bus rapid transit
Measure2	New rail stations and lines
Measure3	Cycle networks
Measure4	Intelligent transport systems
Measure5	Pedestrian areas & routes
Score	55

- This is a package of measures that has already been implemented by the WYCA.
- The score of the package is slightly higher than the obtained by List 3 Package 1, suggesting a better performance against the objectives.
- As commented before, we believe the information provided by KonSULT is most useful when analysing individual measures; unless a group of measures is included within a case study, there is little information on how to best coordinate a package of them.
- The information provided by KonSULT does not significantly differ from the WYCA’s experience or expectations, with the exceptions already mentioned earlier in the document.

List 4 Parameters

List 4 was based on the same objectives as List 3. The difference between them is that in the case of list 4 a specific strategy –in line with the Single Transport Plan’s strategy– was defined.

The parameters selected and the weights^(*) assigned to them are shown in the table below.

LIST 4: PARAMETERS		
<i>i. Area type</i>	Any area type	
<i>ii. Objectives</i>	Efficiency	5
	Liveable Streets	3
	Protection of the environment	3
	Equity and social inclusion	3
	Safety	3
	Economic Growth	5
	Finance	0
<i>iii. Strategy</i>	Reducing the need to travel	0
	Reducing Car Use	3

	Improving the use of road space	5
	Improving the use of Public	5
	Improving walking and cycling	5
	Improving Freight	3

(*) Weights from 0-5, where 0= do not use; 1=low importance; 5=high importance

List 4 Measures

- i. The measures in list 4 already applied by the WYCA are listed below, together with the new scores they were assigned by KonSULT.

LIST 4: Measures already considered by the WYCA			
rank	code	measure	score
2	209	Pedestrian areas & routes	34
3	102	Land use to support public transport	32
5	305	Accident remedial measures	30
6	311	Parking controls	29
7	304	Intelligent transport systems	29
8	109	Development density and mix	27
9	208	Cycle networks	26
10	404	School travel plans	23
11	403	Company travel plans	21
12	303	Urban traffic control	21
13	407	Bike sharing	20
14	103	Parking standards	20
15	603	Parking charges	20
16	204	New rail stations and lines	20
17	205	Bus rapid transit	19
18	401	Promotional activities	18
19	317	Bus regulation	17
20	318	Segregated cycle facilities	16

It is observed that the scores have dropped with respect to list 5, suggesting a smaller contribution of the individual measures in the new context.

- ii. The table below shows all of the measures in list 4 that are being considered by the WYCA as part of the Single Transport Plan. As with list 3, we have included the full set of measures under consideration, even if some of them have already been implemented and are being therefore considered for further development.

iii.

LIST 4: Measures being considered by the WYCA			
rank	code	measure	score
7	304	Intelligent transport systems	29
9	208	Cycle networks	26
12	303	Urban traffic control	21
13	407	Bike sharing	20
16	204	New rail stations and lines	20
17	205	Bus rapid transit	19
18	401	Promotional activities	18
19	317	Bus regulation	17
21	402	Personalised journey planning	16
24	203	Light rail systems	15
25	301	Road maintenance	15
26	609	Integrated ticketing	14
32	312	New rail services	12
33	313	Bus services	12
34	509	Barrier-free mobility	11
46	506	Real time passenger information	9
47	505	Conventional timetable & service information	9
48	405	Promoting low carbon vehicles	8
49	310	Low emission zones	8
51	508	Crowd sourcing	6
53	323	Road freight fleet management systems	6
60	201	New road construction	1

- The information contained in KonSULT does not differ from the understanding that the WYCA had of the measures.
- Apart from some aspects already commented, the information in KonSULT does not differ from the WYCA's expectations or experience of the measures.

iv. The list does not include any measures that the WYCA had not previously considered adopting and might now consider.

List 4 Packages

List 4 Package 1

This package was generated using the “packages” tool. The measures considered for inclusion were the 10 with the highest score also contemplated within the Single Transport Plan.

Further details on the criteria selected as well as the list of ranked packages can be found in the full report.

LIST 4 PACKAGE 1	
Measure1	Bus rapid transit
Measure2	New rail stations and lines
Measure3	Cycle networks
Measure4	Urban traffic control
Measure5	Intelligent transport systems
Score	30

- The only difference between this package and list 3 package 2 is the inclusion of *urban traffic control* instead of *pedestrian areas and routes*. However, its score is much lower, suggesting a poor contribution to the objectives in the context specified. Since the objectives are the same as in list 3, we can infer that the strategy adopted is not the optimal in this scenario.
- This is a package that has been partially implemented in West Yorkshire.
- The information provided by KonSULT does not essentially differ from the WYCA's experience and expectations, except for a few aspects already commented.
- As commented earlier, the information contained in the *Policy Guidebook* may be useful in the analysis of packages to the extent that it may help supply evidence in relation to the individual measures, but it is of not as useful when trying to analyse synergies between measures.

List 4 Package 2

This package was generated using the “package” tool. The same measures as in list 3 package 2 were considered for inclusion. Further details on the parameters selected to create the package can be found in the full report.

LIST 4 PACKAGE 2	
Measure1	Bus rapid transit
Measure2	New rail stations and lines
Measure3	Urban traffic control
Measure4	Intelligent transport systems
Measure5	Pedestrian areas & routes
Score	32

- This package only differs from list 4 package 1 in the inclusion of *pedestrian areas and routes* in place of *cycle networks*. There is little difference in scores, although given the low scores of the initial scores, might not be negligible.
- This is a package that has been implemented in West Yorkshire.

- The information in KonSULT does not add to the WYCA's understanding of the measures.
- Possible differences between KonSULT and the WYCA's experience have been explained earlier in the document.

List 4 Package 3

This package was the second in the ranking of packages that the generator came up with when creating list 4 package 2.

LIST 4 PACKAGE 3	
Measure1	Bus rapid transit
Measure2	New rail stations and lines
Measure3	Intelligent transport systems
Measure4	Cycle networks
Measure5	Pedestrian areas & routes
Score	31

This is a package of measures that has been implemented in West Yorkshire. The information in KonSULT does not differ from the WYCA's experience, except for some aspects already commented.

List 4 Package 4

This package was generated using the "packages" tool. A set of 10 arbitrary measures, all of them contemplated by the Single Transport Plan, were considered.

LIST 4 PACKAGE 4	
Measure1	Bus rapid transit
Measure2	New rail stations and lines
Measure3	Intelligent transport systems
Measure4	Pedestrian areas & routes
Measure5	Land use to support public transport
Score	31

- We observe that all the packages generated up to now from list 6 share three measures –*bus rapid transit*, *new stations and lines*, and *intelligent transport systems*.
- This package of measures has been partially implemented by the WYCA. As explained before, the information given in KonSULT is useful when analysing individual measures, but synergies between different measures are not made explicit, so it is not so easy to determine how best they could perform.
- Differences between the information in KonSULT and the WYCA's experience have been commented in previous sections.

List 4 Package 5

We considered interesting to analyse other packages included in the list generated by KonSULT with a similar score to list 4 package 4. We called these list 6 package 5 and list 6 package 6.

LIST 4 PACKAGE 5	
Measure1	New rail stations and lines
Measure2	Cycle networks
Measure3	Intelligent transport systems
Measure4	Pedestrian areas & routes
Measure5	Land use to support public transport
Score	31

- This is a package that has been implemented by the WYCA.
- We observe that substituting bus rapid transit by cycle networks would have a similar effect on the context specified, according to KonSULT. However, if we compare the number of users – existing and expected– of the two modes considered, we can see there is a substantial difference, as would be the difference in impact on the objectives considered. As we pointed out earlier, this seems to suggest that the generator has problems to cope with the scale of the effects of the measures.

List 4 Package 6

LIST 4 PACKAGE 6	
Measure1	Bus rapid transit
Measure2	Cycle networks
Measure3	Intelligent transport systems
Measure4	Pedestrian areas & routes
Measure5	Land use to support public transport
Score	31

- This is a package that the WYCA has already implemented.
- The information in KonSULT does not add up to the WYCA's understanding of the package, nor does it significantly differ from the WYCA's experience, except for some aspects already mentioned.

Shortlisted measures and packages

Shortlisted measures

List 3 might be the one that the WYCA would most like to apply.

From that list, we could shortlist the following individual measures:

SHORTLISTED MEASURES		
category	code	measure
Land Use Measures	101	Development density and mix
	102	Land use to support public transport
	103	Parking standards
	104	Developer contributions
Infrastructure	201	New road construction
	202	Off street parking
	203	Light rail systems
	204	New rail stations and lines
	205	Bus rapid transit
	206	Park & ride
	208	Cycle networks
Management and service measures	209	Pedestrian areas & routes
	301	Road maintenance
	302	Conventional traffic management
	303	Urban traffic control
	304	Intelligent transport systems
	305	Accident remedial measures
	306	Traffic calming measures
	307	High occupancy vehicle lanes
	308	Physical restrictions
	309	Regulatory restrictions
	310	Low emission zones
	311	Parking controls
	312	New rail services
	313	Bus services
	314	Bus priorities
	315	Demand responsive transport
	316	Bus fleet management systems
	317	Bus regulation
	318	Segregated cycle facilities
	319	Cycle parking & storage
	321	Pedestrian crossing facilities
	322	Lorry routes & bans

SHORTLISTED MEASURES		
category	code	measure
	323	Road freight fleet management systems
Attitudinal and behavioural measures	401	Promotional activities
	402	Personalised journey planning
	403	Company travel plans
	404	School travel plans
	405	Promoting low carbon vehicles
	406	Ride sharing
	407	Bike sharing
	408	Car clubs
	409	Flexible working hours
	410	Telecommunications
Information	501	Conventional signs & markings
	502	Variable message signs
	504	Parking guidance systems
	505	Conventional timetable & service information
	506	Real time passenger information
	507	Trip planning systems
	508	Crowd sourcing
	509	Barrier-free mobility
Pricing	603	Parking charges
	604	Private parking charges
	605	Road user charging
	606	Fare levels
	607	Fare structures
	608	Concessionary fares
	609	Integrated ticketing

Most of these are measures that the WYCA has applied and were therefore included in the relevant lists considered before. Based on the WYCA's experience, there are no reasons to exclude them from consideration in the future, as they have proved useful to address the transport problems experienced in the past and work towards the successive LTPs' objectives. It will be the users' transport needs and the relevant national, regional and local policies and strategies which determine the specific measures to be considered in each case.

With regards to the measures that the WYCA has not yet implemented, there is enough evidence – the case studies compiled in KonSULT may be an example – to believe that solutions that have been applied successfully elsewhere may be applied in West Yorkshire to address comparable problems or achieve similar objectives, under analogous conditions.

Finally, there are a couple of measures not yet applied by the WYCA –road user charging and regulatory restrictions. We explained earlier in the document that this was due to their current lack of political acceptability, but as this depends on changing factors such as the public’s attitude and the policy framework, it cannot be discarded that they may be considered in the future, if the circumstances advised so.

Measures shortlisted but not implemented

SHORTLISTED MEASURES (MEASURES NOT IMPLEMENTED IN WEST YORKSHIRE)		
category	code	measure
Infrastructure	203	Light rail systems
Management and service measures	309	Regulatory restrictions
	310	Low emission zones
	312	New rail services
Attitudinal and behavioural measures	405	Promoting low carbon vehicles
Information	508	Crowd sourcing
Pricing	601	Vehicle ownership taxes
	605	Road user charging

- a) The WYCA has relatively good knowledge of what the public might think about the measures, since as part of the formulation of the Local Transport Plan, extensive public consultation was undertaken on the draft WYLTP3 and Implementation Strategy, as well as on specific measures such as the introduction of Quality Contracts.

Not only did the consultation allow the WYCA to have feedback on the issues which were the object of the enquiry, but to collect a number of suggested measures provided spontaneously by the respondents in their answers.

Apart from this valuable source of information, the WYCA can look at a number of cities –in the UK and elsewhere– where the measures are already in place, which can provide useful examples of the kind of barriers that it would be necessary to overcome for their implementation.

- b) There are various ways in which public support for one measure could be tested, from informal surveys to the more formal process of public consultation.

It has to be noted that consultation is not just a prerogative of local authorities. In England, it is their duty to carry out consultation during the formulation process of policies and plans. In compliance with the Transport Act 2000, it must involve:

- Bus and rail operators
- Public transport user groups
- In the case of Integrated Transport Authorities, district councils and any county councils in their area
- In the case of county councils, district councils
- The Secretary of State, in respect of Highways Agency roads

- Any other people considered appropriate (environmental organisations, disability groups, etc.)

In addition, there is a further duty to involve citizens in local decision making and service provision, introduced in the Local Government and Public Involvement in Health Act 2007.

Finally, a third way of gaining insight into people's views on the measures are the *Statistics on Public Attitudes to Transport*, a series released annually by the Department for Transport, which as its name indicates, offers information on people's attitudes to various transport-related issues.

- c) Some of the measures above would require cooperation of more than one institution for their implementation. The aspects that could require some form of collaboration, as well as the institutions or organisations involved are summarised in the following table.

Measure	Would require cooperation between the WYCA and...	Issues which may require cooperation
Light rail systems	Districts	- Business Case - Funding - Project management
	Department for Transport	- Funding - Franchising - Passenger fares
	Network Rail*	- Project management - Assets management and operation
	Operating companies	- Funding - Franchising - Passenger fares and ticketing
New rail stations and lines	Districts	- Business Case - Funding - Project management
	DfT/Rail North	- Business case - Funding
	Network Rail	- Project management - Assets management (it could include stations) and operation
	Operating companies	- Station management
New rail services	Districts	- Business case - Funding
	DfT/Rail North	- Funding - Franchise design and management - Procurement

	Network Rail	- Assets management and operation
	Train operating companies	- Franchising - Schedule planning - Passenger fares and ticketing
Vehicle ownership taxes	District councils	- Business case - Legal process

* If part of the track is shared with heavy rail

Shortlisted packages

List 3 Package 2

LIST 3 PACKAGE 2	
<i>Measure 1</i>	Bus rapid transit
<i>Measure 2</i>	New rail stations and lines
<i>Measure 3</i>	Cycle networks
<i>Measure 4</i>	Intelligent transport systems
<i>Measure 5</i>	Pedestrian areas & routes

- This package scored reasonably well in terms of its contribution to the objectives set out by the Single Transport Plan and is aligned with the Plan's key principles, particularly with the core ambition for "a comprehensive public transport network" that fully integrates all modes.
- In effect, all modes are included in the package, with a focus on the most sustainable ones and on public transport. The inclusion of intelligent transport systems would ensure that attention is also given to the road network; however the effective management of existing assets would be prioritised over new highway construction.

List 1 Package 1

LIST 1 PACKAGE 1	
<i>Measure 1</i>	Bus rapid transit
<i>Measure 2</i>	Intelligent transport systems
<i>Measure 3</i>	Road user charging
<i>Measure 4</i>	Pedestrian areas & routes

- This is a package that the WYCA has not considered implementing. It has been selected because it covers three of the four themes that make up the LTP3's strategy, namely travel choices, connectivity and enhancements.
 - The LTP3's Strategy proposes managing demand for car travel in order to encourage more informed, sustainable travel choices. The package includes a demand management measure, *road user charging*, and a measure that can be used to provide information, *intelligent*

transport systems. Following the terminology used by the LTP3, *bus rapid transit* and *pedestrian areas* can be seen as two examples of sustainable transport choices.

- The connectivity theme is about delivering an integrated transport system. Again, *bus rapid transit* and *pedestrian areas and routes*, working together with *intelligent transport systems* appear as solutions that can contribute to better integration between modes.
 - Finally, the enhancements theme would be represented by *intelligent transport systems* and *bus rapid transit*, which are two technological enhancements for a better performance of the transport system as a whole.
- To the question of public attitudes to the packages and public support, it is applicable what we said in the previous section.
 - The measure *new rail stations and lines*, included in list 3 package 2, would require cooperation of more than one institution. The organisations involved and the kind of cooperation needed were already indicated in [7.1](#).
 - Similarly, the measure *bus rapid transit*, included in list 1 package 1, would require the WYCA to work with the districts in aspects such as the business case, funding and project management. Collaboration with operators would also be sought in order to establish the fares and ticketing systems.

Feedback

- The website is useful and easy to use, and this is its main attractiveness. However, it was noted that the only way to restart the Measure Option Generator was by navigating the screens back – in most cases, some values had also to be selected for the tool to go back to the previous screen. It would be useful to have a “restart” button that allows the user to go to the first screen at any point.
- The meaning of the scores was not always clear, particularly when comparing scores obtained in different runs of the option generator e.g. between packages obtained by the “synergy” and “barrier” method.
- We feel that the *Policy Guidebook* is most useful to inform about individual measures; not enough detail about the possible synergies and/or barriers is given as for the decision-maker to know how to apply a package in the most effective way.
- We observed that conventional traffic management scored negatively for most of the lists, probably based on the assessment carried out for the case studies included in the *Policy Guidebook*. It raises concerns about the transferability of the assessment, since this seems to be too reliant on the case studies included in the website.
- Finally, there is a feeling that the analysis carried out by the option generator is mostly qualitative and does not have into account the scale of the impacts. For example, in most of the lists generated for this exercise *bike sharing* ranked high and above other measures that have

proved effective to contribute to the objectives selected (*bus rapid transit, concessionary fares*), even when the case studies did not present strong evidence to support this high ranking.

Annex 12: Test report from Zagreb

[longer tables have been abridged; the full version is available from the authors]

A. Developing a measure catalogue via KonSULT

You can find the KonSULT tool at <http://www.konsult.leeds.ac.uk>. We suggest that you focus on the Measure Option Generator (the top tab on the left hand side of the home page). However you may wish to look at the Policy Guidebook or the Decision-Makers' Guidebook. There are links to further information on using all of these on the home page.

We suggest that you experiment with the KonSULT tool to see the different methods of generating measure and package options, and to find the approach(es) that you think most useful. You will find guidance notes within the website which explain what you can do, and how KonSULT generates the suggestions which it makes.

I. First please enter the Measure Option Generator and use KonSULT to generate one or more lists of measures. You can generate a list which takes account of *either* your city's objectives, problems or indicators. You can consider your whole city or focus on a particular part of it. If you wish, you can identify measures which contribute to a specific strategy.

Please specify each list in the format indicated below. You can add one or more lists – ***please number each list (list 1; list 2 etc.):***

- xxxvii. Note the 'area type' you chose – [City Centre](#)
- xxxviii. Note the objectives or problems or indicators, and the importance that each is given
e.g. [Objectives:](#)
 - Safety [1];
 - Economic growth [3];
 - Protection of the environment [3];
 - [Liveable streets](#) [5]
- xxxix. Note the strategies you chose and the importance that each is given (or note if you chose 'any strategy') [Improving the Use of Road Space](#) (5)
- xl. Note the list of measures you generate

rank	code	category	measure	score	
1	605	Pricing	Road user charging	48	
2	209	Infrastructure	Pedestrian areas & routes	40	
3	305	Management and service measures	Accident remedial measures	40	
4	322	Management and service measures	Lorry routes & bans	38	
5	404	Attitudinal and behavioural measures	School travel plans	36	
6	309	Management and service measures	Regulatory restrictions	36	
7	208	Infrastructure	Cycle networks	36	
8	103	Land Use Measures	Parking standards	36	
9	202	Infrastructure	Off street parking	32	
10	603	Pricing	Parking charges	32	
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You can find out more about any of the measures by clicking on it. This will take you straight to the relevant entry in the Policy Guidebook.

2. Packaging measures. Beginning with each list of measures, please generate some packages (you can get to the packaging pages by clicking the 'package option generator' button above the list of measures). The package option generator allows you to choose whether to seek measures which complement a given policy measure, or to create packages of up to five measures from a chosen list. To simplify the latter, only 10 measures can be shortlisted. In either case you can choose measures which help overcome barriers to implementation, or ones which reinforce each other (by creating synergy).

Please specify each package in the format indicated below (again you can add one or more packages).

In each case please specify which list of measures is used to generate the package i.e. list 1; list 2...; and please number the packages so that you have, for instance list 1, package 1; list 1 package 2; list 2, package 3)

- xiii. Note whether you chose 'complementary measures' or 'packages'
- xiv. If you chose complementary measures:
 - a. Please specify the single measure for which you wanted to identify complementary measures
 - b. Note whether you chose 'barrier' or 'synergy'
 - c. Please note the ranked combinations
- xv. If you chose **packages**:
 - a. Note whether you chose 'barrier' or '**synergy**'
 - b. Please note the measures that you chose to consider and the size of the package **5**
 - c. Please note the ranked packages **8**

B. Assessing the lists of measures and packages of measures

We would like you to critically assess the measures and packages that you have generated using KonSULT. Please try to respond to each point giving as much or as little detail as you think appropriate.

1. For each list of measures, please comment on the following points (please clearly say which list you are referring to, e.g. list 1; list 2):

Rank	Measure1	Measure2	Measure3	Measure4	Measure5	Total
1	Off street parking	Cycle networks	Pedestrian crossing facilities	Road user charging	Pedestrian areas & routes	50
2	Off street parking	Cycle networks	Regulatory restrictions	Road user charging	Pedestrian areas & routes	38
3	Off street parking	Cycle networks	Road user charging	Pedestrian areas & routes	Promoting low carbon vehicles	36
4	Off street parking	Regulatory restrictions	Pedestrian crossing facilities	Road user charging	Pedestrian areas & routes	36
5	Off street parking	Cycle networks	Regulatory restrictions	Pedestrian crossing facilities	Road user charging	35
6	Off street parking	Cycle networks	Traffic calming measures	Road user charging	Pedestrian areas & routes	35
7	Cycle networks	Regulatory restrictions	Pedestrian crossing facilities	Road user charging	Pedestrian areas & routes	34
8	Off street	Pedestrian crossing	Road user charging	Pedestrian	Promoting	34

	parking	facilities		areas & routes	low carbon vehicles	
9	Off street parking	Cycle networks	Pedestrian crossing facilities	Road user charging	Promoting low carbon vehicles	33
10	Off street parking	Traffic calming measures	Pedestrian crossing facilities	Road user charging	Pedestrian areas & routes	33

Does the list include measures you have already adopted –if so please specify which measures. **YES**

[Pedestrian crossing facilities](#)

[Cycle networks](#)

[Regulatory restrictions](#)

[Pedestrian areas & routes](#)

xxii.

- a. If so, does the detailed information KonSULT gives about the measure in the Policy Guidebook add to your understanding of the measure? **YES**
- b. Does the detailed information KonSULT gives about the measure in the Policy Guidebook differ from your experience of the measure – if so, please say how. **No difference**

xxiii. Does the list include any measures which you are already considering - if so please specify which measures. **YES**

[Off street parking](#)

[Traffic calming measures](#)

- a. If so, does the detailed information KonSULT gives about the measure in the Policy Guidebook add to your understanding of the measure? **YES**
- b. Does the detailed information KonSULT gives about the measure in the Policy Guidebook conflict with your expectations of the measure – if so, please say how. **NO**

xxiv. Does the list include measures which you had not previously considered adopting, but which you might now consider adopting? If so, please say which measures. **NO**

- a. Please outline why you might now consider them.

xxv. Does the list include any measures which you would not consider - if so please specify which measures.

- a. Please say why these measures would not be considered **NO**
- b. Does the detailed information KonSULT gives about the measure in the Policy Guidebook differ from your experience of the measure – if so, please say how. **No difference**

2. For each package of measures, please comment on the following points as applicable (please clearly say which list you are referring to, e.g. package 1; package 2): [Package 1: 1. Off street parking, 2 Cycle networks, 3 Pedestrian crossing facilities, 4 Road user charging, 5 Pedestrian areas & routes](#)

- xxvii. Have you already implemented all of this package of measures? **NO**
- a. If so, does the detailed information KonSULT gives about the measures in the package add to your understanding of the package?
 - b. Does the detailed information KonSULT gives about the measures in the package differ from your experience – if so, please say how. **NO**
- xxviii. Have you already implemented part of this package of measures? **YES**
- a. If so, does the detailed information KonSULT gives about the measures in the package help you to make this package more effective? **We find it useful and considerable but effectiveness depends on objective circumstances on local level**
 - b. Does the detailed information KonSULT gives about the measures in the package differ from your experience or expectations – if so, please say how. **No difference in meaning but useful in offering comparable data and references to analyse.**
- xxix. Are you already considering this package? **YES**
- a. If so, does KonSULT add to your understanding of the package? **YES**
 - b. Does the information KonSULT gives about the measures in the package differ from your expectations– if so, please say how. **No difference**
- xxx. Is the package one which you had not considered implementing, but which you might consider now? **YES, Package 31 (Cycle networks, Traffic calming measures, Regulatory restrictions, Pedestrian crossing facilities, Road user charging)**
- a. If so, please outline why you might now consider it. **Including road user charging is different package of measures that we have yet implemented so we are interested to consider possible positive changes afterwards**
- xxxi. Is the package one which you would not consider? **NO**
- a. If so, please say why
 - b. Does the information KonSULT gives differ from your understanding of the measures in the package – if so, please say how. **No difference**

For each list of complementary measures, please comment on the following points as applicable (please clearly say which list you are referring to, e.g. package 1; package 2): [Package 1 : Pedestrian areas & routes, Cycle networks](#)

- xi. Have you already implemented all of this list of measures? **YES**
- a. If so, does the detailed information KonSULT gives about the measures add to your understanding of their ability to complement your specified measure? **YES**
 - b. Does the detailed information KonSULT gives about the measures in the list differ from your experience – if so, please say how. **YES, KonSULT offer measures that are rather improved and having wider impact in wider context.**
- xii. Have you already implemented part of this list of measures? **YES**
- a. If so, does the detailed information KonSULT gives about the measures in the list help you to complement your chosen measure more effectively? **YES**

- c. Does the detailed information KonSULT gives about the measures in the list differ from your experience or expectations – if so, please say how. **No difference**
- xiii. Are you already considering this list of measures? **YES Since they are already implemented but in a narrow context we are considering now to implement complementary measures in wider context.**
 - a. If so, does KonSULT add to your understanding of these measures? **YES**
 - b. Does the information KonSULT gives about the measures differ from your expectations– if so, please say how. **No difference**
- xiv. Is the list of measures one which you had not considered implementing, but which you might consider now? **No. We are considering to improve ones that have been already implemented.**
 - a. If so, please outline why you might now consider it.
- xv. Is the list of measures one which you would not consider? **NO**
 - a. If so, please say why
 - b. Does the information KonSULT gives differ from your understanding of the package – if so, please say how. **No difference**

C. Shortlisting measures and packages

- a. Of your lists of measures, please note one or two *lists* which you would most like to consider implementing. In making your choice please note that it does not matter whether the list contains measures you have already implemented, or are already considering implementing.
Package 7: Cycle networks, Regulatory restrictions, Pedestrian crossing facilities, Road user charging, Pedestrian areas & routes
- b. Please note the *individual* measures in this list/ these lists which you may consider implementing. You might include measures already implemented or those which you are already considering implementing. **Please say briefly why you have chosen these.**
Cycle networks, Pedestrian areas & routes – even though we have respectable bicycle lanes/pedestrian areas it is obvious that they are separated and not very well connected. Due to our interest to improve walking and cycling facilities, we are interested in improvement of these measures even though they are formerly partly implemented.

The following questions apply only to those measures which you have shortlisted but **not** already implemented

- y. Are you aware of what the public, or sections of the public, might think about the measures (for instance, would they support the measures; would there be opposition?) **We are aware of possible circumstances due to which we always expect some opposition, therefore we are trying to use only those measures that will provoke less of opposition and give greater benefit to most of general public.**
- z. How might you test whether there is public support for the measures?
Questionnaire, round table, piloting

- æ. Would implementing the measures require cooperation of more than one institution (for instance, would it require two local authorities to agree)? **YES there is no alternative to that**
- ø. If the answer to (c) is yes, please note what this cooperation would involve. **Coordination to prioritize same goals and coordination of time tables for achievement of mutual vision. It is obligated to form a mutual vision formerly, among institutions that have any kind of jurisdiction in the process of vision achievement.**
- b. Of your packages, please note one or two which you would most like to consider implementing. **No measures to outline that have not been already discussed in the questionnaire above.**
Please say briefly why you have chosen these. Please include at least one package which you have not already implemented, or have already been considering implementing.
 - v. Are you aware of what the public, or sections of the public, might think about the package(s) chosen?
 - w. How might you test whether there is public support for the package(s)
 - x. Would implementing the package(s) require cooperation of more than one institution (for instance, would it require two local authorities to agree?)?
 - y. If the answer to (c) is yes, please note what this cooperation would involve.

D. Comments on the website

Please let us have your comments on the ease with which you were able to use the website, and its attractiveness. Are there improvements which you think that we should make? **We find website very useful in offering a wide range of ideas and solutions. In case of not having any of measures it can provide good examples and suggestions to perform, as well in case of having measures it is useful to acknowledge "knowhow" to improve them and apply to a wider context.**

In using the Policy Guidebook, were there case studies of particular measures that you think we could usefully include? If so, please let us have details. **No particular comment**

Annex 13: Proposed proforma for developing an agreed strategy and implementation plan

1 Background

This document concerns the major element of WP4 in which all cities (except Amiens and Ghent) will be developing implementable packages. The approach was broadly agreed in Amiens and confirmed in Budapest. Work is due to start in March 2015 and run until November 2015. In the Budapest meeting each city outlined what they planned to do and how it related to their current SUMP development commitments. Details have since been confirmed with each city. It was also agreed that the output of this task would be a series of pilot-style reports, which would be summarised, alongside the pilots for WPs 2, 3 and 5, in D6.5.

What follows is a reminder of the purpose of this Task, and the agreed template for recording the outcomes, so that they are recorded in a consistent fashion which will enable comparisons to be made.

2 The specification in the Description of Work

The Description of Work says:

The process of measure identification [i.e. the outputs from Task 4.2, which were completed in early November] will be pre-tested by the five advancing cities, based on the results of their problem analyses in Task 4.1. This will enable the advancing cities to identify the most effective SUMP measures/ measure packages. The optimising cities will pre-test the tool to identify new measures for their next SUMP generation. [This part of the specification is covered in Task 4.3a, which is described in this deliverable.]

In a next step, the proposed measures will need to be assessed against the city's local resource framework for a potential implementation. Whenever needed, the packages will be optimised.

In Brno, Budapest, Krakow, Timisoara and Zagreb the participatory agreement and a cross-institutional agreement on their SUMP measure catalogue will take place in WP2 and 3. This will contribute to take crucial steps in the SUMP development process of these cities. [We cover these two paragraphs in Task 4.3b.]

3 Task 4.3b: The partners involved

While the Description of Work implies that all partner cities complete this task, it has been agreed that it will only be carried out by the advancing cities and, since they have additional resources, Dresden and WYCA. We have allowed 250 person-hours for each participating city. Support will be available for advancing cities from support partners as follows:

- Brno: FGM
- Budapest: PUT
- Krakow: ITS
- Timisoara: PUT
- Zagreb: UIRS.

Dresden and WYCA have also offered to provide support to cities as needed within the resources available to them. It is assumed that the initiative for seeking advice will lie with the cities, who should contact their support partner when help is needed. Support partners should in turn approach Dresden and WYCA where they feel that practical experience is needed.

4 The agreed approach

The principal objective of this Task is to understand in more detail the steps involved in moving from a suggested shortlist of measures to an agreed strategy and implementation plan. Based on our own proposals in Amiens, which were agreed, the work will involve:

1. defining objectives and base conditions (based on Task 4.1b)
2. defining any financial, resource and timing constraints
3. specifying the detailed application of each of the shortlisted policy measures
4. using a model (or other method where no model is available, or where specific measures cannot be modelled) to test appropriate packages in terms of objectives and resource constraints
5. ideally optimising the package where the ability to optimise exists
6. using the procedures being developed in WP2 to test the acceptability of each of the steps above (and hence actively involving participation)
7. using the procedures being developed in WP3 to assess the need for cooperation, and the extent of cooperation, in each of the steps above
8. using the procedures being developed in WP5 particularly in steps 4 and 5 above
9. and hence providing feedback on the tools being developed both in WP4 and in the other three CHALLENGE WPs.

We agreed to leave it open to cities to assess whether all of these steps are required and, indeed, whether other stages are needed in addition. In all cases, cities have agreed that all nine steps are relevant. As we noted in the original proposal for the Amiens meeting, cities may need particular guidance with steps 3, 4 and 5.

In relation to step 3, it is important to note that, while KonSULT will suggest possible measures to be used, it is not designed to provide advice on how specifically it should be implemented in a given city or context. Some indications of this are given in the KonSULT case studies and more in CIVITAS and ELTIS case studies.

In relation to step 4, most cities have a model of their transport and land use s which can be used. Input will be the base conditions, some form of “do-minimum” base strategy, and the individual detailed applications as specified in step 3. Depending on the number of applications, they can be tested alone or in packages. The outputs will be comparisons of these “do-something” tests against the “do-minimum” using indicators specified in WP5.

In relation to step 5, true optimisation can only be carried out with a model such as MARS which has an optimising facility. Without this, all that can be done is to use professional judgment to select potentially suitable packages and the model to test them. The ability to do this will depend on the resources required for each model run, and the outcome will be dependent on the quality of the professional judgment.

5 The template

Please provide text (of up to 2pp per heading) to cover each of the headings below. Please feel free to provide annexes if these will help illustrate more fully what you have done.

- 1) Objectives and base conditions: Please list the objectives of your SUMP and any priorities among them. Please then identify the nature and scale of the problems which you are facing, and which the SUMP is designed to address. (Advancing cities may wish to refer to material in D4.1).
- 2) Financial, resource and timing constraints: Please indicate the budget available to you for implementing your SUMP (or the likely range if the actual budget is not known) and any other constraints on developing and implementing your SUMP.
- 3) Selection of measures and packages: Please list the broad types of policy measure which you have decided to use (ideally by reference to those in KonSULT) and the ways in which these are being packaged. Please indicate the ways in which you generated this list (which could include political preferences, stakeholder views, public preferences, advice from KonSULT, advice from other sources of guidance). Please assess the strengths and weaknesses of each of these sources of advice in the light of your subsequent experience.
- 4) Specification of the detailed application of each of the shortlisted measures: Please indicate, for each of the principal measures in (3), how you decided to apply them (in terms of location, time of day, intensity of application). Please outline the process which you adopted for developing these detailed specifications, and the sources of advice used (which could include political preferences, stakeholder views, public preferences, advice from KonSULT, advice from other sources of guidance). Please assess the strengths and weaknesses of each of these sources of advice in the light of your subsequent experience.
- 5) Testing of specified applications in terms of objectives and constraints: Please indicate how you tested the detailed specifications of each of these principal measures, either alone or as a package. If you used a computer model, please indicate which, and assess its strengths and weaknesses in the light of your subsequent experience. If you did not use a model, please describe the approach adopted, and assess its strengths and weaknesses in the light of your subsequent experience.
- 6) Optimising the package: Please indicate how you chose, from the set of tests in (5), how you chose the preferred package in the light of your objectives and constraints. If you used a formal optimising procedure, please describe it and assess its strengths and weaknesses in the light of your subsequent experience. If you used a less analytical approach, please describe it and assess its strengths and weaknesses in the light of your subsequent experience.
- 7) Applying the principles of public participation (WP2): Please indicate, for each of the steps above, the extent to which you involved the public and what the benefits and disadvantages of doing so were.
- 8) Applying the principles of cooperation (WP3): Please indicate, for each of the steps above, the extent to which you involved other partners and what the benefits and disadvantages of doing so were.
- 9) Applying the principles of monitoring and evaluation (WP5): Please indicate, for each of the steps above, the extent to which you involved the concepts developed in WP5 in your appraisal of options and what the benefits and disadvantages of doing so were.
- 10) Overview and concluding remarks: Please assess, in the light of the stage which you have reached, how successful your procedures for developing an agreed strategy and implementation

plan have been. What would you do differently on a future occasion? What advice would you offer to other cities at the same stage as you are in the development of SUMPs?

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CH4ALLENGE

Addressing Key Challenges of Sustainable Urban Mobility Planning

D4.2 SUMP measure catalogues

Addendum: Assessment of measure catalogues

(Advancing Cities)

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Author	City of Brno (Iva Machalová), BKK Centre for Budapest Transport (András László Kőrösi), City of Krakow (Tomasz Zwoliński), City of Timisoara (Loredana Sibian), City of Zagreb (Ana Magdić, Matija Vuger); coordinated by Rupprecht Consult (Susanne Böhler-Baedeker, Miriam Lindenau)
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1 Introduction

CH4ALLENGE's project cities have tested KonSULT¹ to generate SUMP measure catalogues for their cities (see D4.2 main deliverable). As a subsequent step, the five Advancing Cities Brno, Budapest, Krakow, Timisoara and Zagreb have assessed the lists and packages generated with KonSULT against attitude, support and commitment by institutional actors, stakeholders and the public.² The assessment aimed to understand better the feasibility of measures suggested by KonSULT and assist cities to move to an agreed strategy and implementation plan with institutional actors, stakeholders and citizens. Some of the cities were able to report the actual status of feasibility, support and backing for measures, while others carried out a rather theoretical assessment.

If partner cities generated more than one list of measures in D4.2, they assessed the list most applicable to their local planning situation. The same applies if they generated more than one package of measures. If cities had chosen the "packages" method, they assessed at least the top score package option. If they chose the "complementary" method, they assessed the set of complementary measures. Cities then reflected critically on the package as a whole and assessed its overall likeliness in terms of feasibility, support and acceptance.

At CH4ALLENGE's final consortium meeting partner cities and Rupprecht Consult discussed options how to collate information for the assessment and agreed that a table format would be most suitable. Rupprecht Consult prepared an assessment table containing the following information:

- **Name of measure:** as suggested by KonSULT
- **Planning situation:** measure is already adopted; measure is being considered; measure has not been considered before
- **Integration into SUMP:** measure already integrated into SUMP; measure planned to be integrated into SUMP; measure currently under discussion for SUMP; measure not included in SUMP; not applicable (no SUMP)
- **Assessment of feasibility:** very easy to implement measure; fairly easy to implement measure; fairly difficult to implement measure; very difficult to implement measure; impossible to implement measure
- **Assessment of view of institutional actors:** qualitative assessment
- **Assessment of view of stakeholders:** qualitative assessment
- **Assessment of public acceptance:** qualitative assessment
- **Other factors relevant to implementation:** can be both drivers (positive factors) and barriers (negative factors) related, for example, to the legal framework, local or regional political situation, technical and infrastructure issues

The Advancing Cities have then completed the assessment tables for their lists of measures and measure packages (see Chapters 2-6).

¹ <http://www.konsult.leeds.ac.uk>

² See also Description of Action, p. 41

2 City of Brno: assessment of measure catalogue

Note: The City of Brno has not yet adopted their Sustainable Urban Mobility Plan. Therefore, the KonSULT option generation tool was used as a theoretical assessment exercise with regard to traffic calming strategies in the city centre.

Table 1: Brno - assessment of list of measures

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Land use to support public transport	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	Cooperation with planning authorities – local municipalities, region	Cooperation with the municipality and developers e.g. in construction of housing areas.	High acceptance and support by the public	n/a
Road user charging	b. Measure is being considered	b. Measure planned to be integrated into SUMP	4 – very difficult to implement measure	- Cooperation with municipal transport departments - Road Maintenance organization	- City districts, shop owner, owners of the properties – to discuss and explain the necessity of this measure - PT operators, car clubs	- As for any restrictive measure it is necessary to explain why it will be implemented, what are the benefits; - Information campaign has to take place – with the clear explanation of the tariffs, detours, etc.	n/a
Pedestrian areas & routes	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	- Cooperation with municipal transport departments - Road Maintenance organization	- Developers. to ensure the connections of the different areas of the city - City districts	High acceptance and support by the public	n/a

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
School travel plans	b. Measure is being considered	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Cooperation with the municipal and region departments - founders of the school • Transport Departments • Public Transport Operators • Coordinator of Regional Public Transport	• City Districts • Schools and parents – to explain why this measure will be implemented, what are the benefits	• High acceptance and support by the public	• n/a
Cycle networks	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Cooperation with municipal transport departments • Road Maintenance organization	• City Districts • Cycling association • Car Clubs	• Usually in urban environment	• n/a
Development density and mix	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Cooperation with planning authorities – local municipalities, region	• Cooperation with the municipality and developers e.g. in construction of housing areas.	• High acceptance and support by the public	• n/a
Accident remedial measures	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Cooperation with municipal transport departments • Road Maintenance organization • Organizations promoting healthy lifestyle • Police	• City districts • Organizations dealing with road safety and security • City districts • Car Clubs • Cycling association • Pedestrian associations	• High acceptance and support by the public • But it is necessary to promote these measures in their context and show their goals.	• n/a

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Regulatory restrictions	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	4 – very difficult to implement measure	- Cooperation with municipal transport departments - Road Maintenance organization	- City districts, shop owner, owners of the properties – to discuss and explain the necessity of this measure - PT operators, car clubs	- As for any restrictive measure it is necessary to explain why it will be implemented, what are the benefits; - Information campaign has to take place – with the clear explanation of the restrictions.	n/a
Parking charges	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	4 – very difficult to implement measure	- Cooperation with municipal transport departments - Road Maintenance organization	- City districts, shop owner, owners of the properties – to discuss and explain the necessity of this measure - PT operators, car clubs	- As for any restrictive measure it is necessary to explain why it will be implemented, what are the benefits; - Information campaign has to take place	n/a
Bike sharing	b. Measure is being considered	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	- Cooperation with municipal transport departments - Road Maintenance organization - Organizations promoting healthy lifestyle - PT operators – for integration of the fare to the PT tickets fares	- Cooperation with companies; universities and other employers - City districts - Cycling association - Pedestrian associations - to discuss possible location of the bike sharing station; to promote - Organizations dealing with road safety and security	- Citizens could be involved in the consultation process of the location of some bike sharing stations - It is necessary to promote also safety rules - And benefits of the cycling on only health but also on city environment.	n/a

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Segregated cycle facilities	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	4 – very difficult to implement measure	- Cooperation with municipal transport departments - Road Maintenance organization – for the implementation of the measure	- Cycling association - Pedestrian associations - to discuss possible location of the bike sharing station; to promote - Organizations dealing with road safety and security - City districts	- It is necessary to promote also safety rules - And benefits of the cycling on only health but also on city environment.	n/a
Parking standards	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	4 – very difficult to implement measure	- Cooperation with municipal transport departments, planning departments - Road Maintenance organization	- Car clubs - City districts - Pedestrian associations - Organizations dealing with road safety and security - Cycling association	- Citizens have to include in the discussion since the parking itself is very sensitive topic - If the benefits of the measure will be explain comprehensibly and clearly the acceptance by the public could increase	n/a
Fuel taxes	c. Measure has not been considered before	d. Measure not included in SUMP	5 – impossible to implement measure	Cooperation with Czech National Government which is responsible for taxation	Car clubs	This measure would be highly commented by public – there is a big risk of refusal by public	The taxes are set up at the national government level; cities have no power to change it

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Pedestrian crossing facilities	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Cooperation with municipal transport departments • Road Maintenance organization	• Cooperation with companies; universities and other employers ;City districts – to discuss the problematic spots where the location of the facilities would be the best • Pedestrian associations - to discuss possible location of the bike sharing station; to promote • Organizations dealing with road safety and security • Cycling association	• Acceptance by the public could be high but it is necessary to include all mobility users to show the reasons and benefits of the implementation of this measure	• n/a
Parking controls	b. Measure is being considered	b. Measure planned to be integrated into SUMP	4 – very difficult to implement measure	• Cooperation with municipal transport departments • Road Maintenance organization • Police	• City districts, shop owner, owners of the properties – to discuss and explain the necessity of this measure • PT operators, car clubs	• As for any restrictive measure it is necessary to explain why it will be implemented, what are the benefits; • Information campaign has to take place – with the clear of the measure	• n/a

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Barrier-free mobility	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	- Cooperation with municipal transport departments, environmental dep., urban planning - Road Maintenance organization - Public Transport Operators	- Car clubs - City districts - Pedestrian associations - Organizations dealing with road safety and security - Cycling association - Association of citizens with disabilities	- High acceptance and support by the public - Barrier-free mobility includes low floor public transport vehicles but also design of the public spaces, especially in this are the communication and consultation with public is necessary	n/a
Private parking charges	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	4 – very difficult to implement measure	- Cooperation with municipal transport departments - Road Maintenance organization	- City districts, shop owner, owners of the properties – to discuss and explain the necessity of this measure - PT operators, car clubs	- As for any restrictive measure it is necessary to explain why it will be implemented, what are the benefits; - Information campaign has to take place – with the clear of the measure	n/a
Vehicle ownership taxes	c. Measure has not been considered before	d. Measure not included in SUMP	5 – impossible to implement measure	Cooperation with Czech National Government which is responsible for taxation	Car clubs	This measure would be highly commented by public – there is a big risk of refusal by public	The taxes are set up at the national government level; cities have no power to change it

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Promotional activities	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	2 – fairly easy to implement measure	• Cooperation with municipal transport departments, environmental departments • Organizations promoting healthy lifestyle • PT operators	• NGOs • Cycling association • Pedestrian associations - to discuss possible location of the bike sharing station; to promote • Organizations dealing with road safety and security	• High impact on the public – all sustainable urban mobility measures have to be presented to public in their complexity • Promotional activities are crucial for the successful implementation of the measures	• n/a
Bus regulation	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Municipal and Regional Transport Departments • Public Transport Operators • Coordinator of Regional Public Transport	• City districts	• If explained why it is necessary to regulate the bus vehicles in the city centre and that the services they are offering will be replaced by other type of the PT vehicle (e.g. trolley buses, electric buses – we can expect high acceptance of this measure) • Positive impact on city environment	• Same for other PT services – trolleybuses, trams, underground
Road maintenance	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Cooperation with municipal transport departments • Road Maintenance organization • PT Operators	• City districts • PT Operators to explain the planned activities; it is as well necessary to prepare the detour of the PT lines	• High acceptance and support by the public – but the information campaign has taken place to inform citizens on planned activities	• n/a

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Bus priorities	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Transport Departments • Public Transport Operators • Coordinator of Regional Public Transport • Road Maintenance organization	• City districts	• High acceptance and support by the public	• Same for other PT services – trolleybuses, trams, underground
Traffic calming measures	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Cooperation with municipal transport departments • Road Maintenance organization	• City districts • PT Operators to explain the planned activities; it is as well necessary to prepare the detour of the PT lines • NGOs • Cycling association • Pedestrian associations • Organizations dealing with road safety and security	• High acceptance and support by the public – especially by those who are living in the area; for all citizens awareness campaign has to be prepared	• n/a
Company travel plans	b. Measure is being considered	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Transport Departments and other dept. • Public Transport Operators • Coordinator of Regional Public Transport	• Cooperation with companies; universities and other employers; • City districts • Political bodies – the discussion has to be held between city and employers to convince companies to develop these documents	• High acceptance and support by the public, employees who will benefit from the implementation of the company travel plans	• n/a

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Light rail systems		b. Measure planned to be integrated into SUMP	4 – very difficult to implement measure	• Railway Authority • Transport, Planning, Environment Departments • Public Transport Operators • Coordinator of Regional Public Transport	• City districts, political bodies	• High acceptance and support by the public – but it could be difficult in the areas close to the proposed line –the citizens have to be informed on the construction and the steps which will be implemented to protect their housing from possibly negative impacts of the construction and operation	• n/a
Cycle parking & storage	b. Measure is being considered	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Cooperation with municipal transport departments • Road Maintenance organization	• Cooperation with developers • Shop owners • Cycling organisation	• High acceptance and support by the public	• n/a
Lorry routes & bans	b. Measure is being considered	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Cooperation with municipal transport departments • Road Maintenance organization	• Cooperation with developers • Shop owners • Big companies	• High acceptance and support by the public – to limit the transit transport	• n/a

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Physical restrictions	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Cooperation with municipal transport departments • Road Maintenance organization	• City districts • PT Operators • NGOs • Cycling association • Pedestrian associations • Organizations dealing with road safety and security	• High acceptance and support by the public – especially by those who are living in the area; for all citizens awareness campaign has to be prepared	• n/a
Integrated ticketing	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Transport Departments • Public Transport Operators • Coordinator of Regional Public Transport • Neighbouring Municipalities	• City districts • Neighbouring Municipalities	• High acceptance and support by the public – this measure could simplify the use of the PT not only in the city but in the region too	• n/a
Intelligent transport systems	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Cooperation with municipal transport departments • Environmental and Planning Dept. – for possible integration of the measurement or for the use of the data • Road Maintenance organization • Police	• City districts • Universities, research organization	• High acceptance and support by the public – because the system will help to avoid congestions	• n/a

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Fare levels	b. Measure is being considered	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Transport Departments • Public Transport Operators • Coordinator of Regional Public Transport	• Association of citizens with disabilities • Cooperation with companies; universities and other employers – to discuss e.g. the connections between levels of fare and working hours	• High acceptance and support by the public – the different levels of fare e.g. dependent on time of the day have to clearly explain to the public	• n/a
Flexible working hours	b. Measure is being considered	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Transport Departments • Public Transport Operators • Coordinator of Regional Public Transport	• Cooperation with companies; universities and other employers	• High acceptance and support by the public if supported e.g. by different levels of fare	• n/a
Fare structures	b. Measure is being considered	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Transport Departments • Public Transport Operators • Coordinator of Regional Public Transport	• Association of citizens with disabilities • Cooperation with companies; universities and other employers	• High acceptance and support by the public	• n/a
Crowd sourcing	b. Measure is being considered	b. Measure planned to be integrated into SUMP	4 – very difficult to implement measure	• Transport, Environment, Planning Dept.; Department for investment	• City districts • NGOs • Cycling association • Pedestrian associations • Organizations dealing with road safety and security • others depends on the type of the measure	• It could be used for the local issues – than it would be accepted by local communities who will have the direct benefit from their investment	• For this type of activity is necessary to find out the legal conditions for combine investment

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Bus fleet management systems	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Transport Departments • Public Transport Operators • Coordinator of Regional Public Transport • Road Maintenance organization – organization responsible for ITS	• City districts •	• High acceptance and support by the public	• Same for other PT services – trolleybuses, trams, underground
Real time passenger information	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	2 – fairly easy to implement measure	• Transport Departments • Public Transport Operators • Coordinator of Regional Public Transport	• NGOs • Cycling association • Pedestrian associations • Environmental organization • City districts	• High acceptance and support by the public – this measure improve the quality of the provided PT service; displayed information could be completed by other type of information	• n/a
Conventional timetable & service information	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	2 – fairly easy to implement measure	• Transport Departments • Public Transport Operators • Coordinator of Regional Public Transport	• City districts	• High acceptance and support by the public – this measure improve the quality of the provided PT service	• n/a

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Low emission zones	b. Measure is being considered	b. Measure planned to be integrated into SUMP	4 – very difficult to implement measure	• Cooperation with planning authorities – local municipalities, region • Road Maintenance organization	• City districts, shop owner, owners of the properties – to discuss and explain the necessity of this measure • PT operators, car clubs • Association of citizens with disabilities - to completed these sings with information	• As for any restrictive measure it is necessary to explain why it will be implemented, what are the benefits; • Information campaign has to take place – with the clear explanation of the tariffs, detours, etc.	• n/a
Conventional signs & markings	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Cooperation with municipal transport departments • Road Maintenance organization	• City districts • Association of citizens with disabilities - to completed these sings with information	• High acceptance and support by the public – this measure improve the quality of the provided PT service	• n/a
Trip planning systems	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Transport Departments • Public Transport Operators • Coordinator of Regional Public Transport • Railway Authority	• City districts • NGOs • Cycling association • Pedestrian associations • Environmental organization • Association of citizens with disabilities • - to completed these sings with information	• High acceptance and support by the public – this measure improve the quality of the provided PT service	• n/a

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Concessionary fares	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	- Transport Departments - Public Transport Operators - Coordinator of Regional Public Transport	- Association of citizens with disabilities - Cooperation with companies; universities and other employers	High acceptance and support by the public	n/a
Telecommunications	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure				n/a
Parking guidance systems	b. Measure is being considered	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	- Cooperation with municipal transport departments - Road Maintenance organization	- City districts - Universities, research organization – to develop the system - Operators of the parking facilities	High acceptance and support by the public – because the system could help the time needed for the parking	n/a
New rail stations and lines	b. Measure is being considered	b. Measure planned to be integrated into SUMP	4 – very difficult to implement measure	- Transport Departments - Urban Planning Departments - Public Transport Operators - Coordinator of Regional Public Transport - Railway Authority	- City districts - NGOs - Cycling association - Pedestrian associations - Environmental organization - Association of citizens with disabilities	High acceptance and support by the public – but it could be difficult in the areas close to the proposed line –the citizens have to be informed on the construction and the steps which will be implemented to protect their housing from possibly negative impacts of the construction and operation	n/a

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Personalised journey planning	b. Measure is being considered	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Transport Departments • Public Transport Operators • Coordinator of Regional Public Transport	• City districts • NGOs • Cycling association • Pedestrian associations • Environmental organization • Association of citizens with disabilities • - to completed these sings with information	• High acceptance and support by the public – this measure improve the quality of the provided PT service	• n/a
Ride sharing	b. Measure is being considered	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Cooperation with municipal transport departments • Road Maintenance organization	• Cooperation with companies; universities and other employers to promote ride sharing	• High acceptance and support by the public	• n/a
Bus services	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Transport Departments • Public Transport Operators • Coordinator of Regional Public Transport	• Cooperation with companies; universities and other employers to get the requests on public service to design it in most suitable way	• High acceptance and support by the public	• Same for other PT services – trolleybuses, trams, underground
Bus rapid transit	c. Measure has not been considered before	c. Measure currently under discussion for SUMP	3 – fairly difficult to implement measure	• Transport Departments • Public Transport Operators • Coordinator of Regional Public Transport • Road Maintenance organization	• Cooperation with companies; universities and other employers to get the requests on public service to design it in most suitable way	• High acceptance and support by the public	• In our cities more likely express bus lines

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Car clubs	b. Measure is being considered	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Transport Departments • Public Transport Operators • Road Maintenance organization	•	• High acceptance and support by the public – this type of the measure is focused on one group of the citizens	• n/a
Promoting low carbon vehicles	b. Measure is being considered	b. Measure planned to be integrated into SUMP	2 – fairly easy to implement measure	• Cooperation with municipal transport departments, environmental departments • Organizations promoting healthy lifestyle • PT operators	• NGOs • Cycling association • Pedestrian associations • Environmental organisation • Organizations dealing with road safety and security	• High impact on the public	• n/a
Off street parking	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	4 – very difficult to implement measure	• Cooperation with planning authorities – local municipalities, region • Road Maintenance organization	• City districts, shop owner, owners of the properties – to discuss and explain the necessity of this measure • PT operators, car clubs • Association of citizens with disabilities - to completed these sings with information	• As for any restrictive measure it is necessary to explain why it will be implemented, what are the benefits; • Information campaign has to take place – with the clear message	• n/a

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
New road construction	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	4 – very difficult to implement measure	• Transport Departments • Urban Planning Departments • Public Transport Operators • Coordinator of Regional Public Transport	• City districts • NGOs • Cycling association • Pedestrian associations • Environmental organization • Association of citizens with disabilities	• High acceptance and support by the public – but it could be difficult in the areas close to the proposed new roads– the citizens have to be informed on the construction and the steps which will be implemented to protect their housing from possibly negative impacts of the construction and operation	• n/a
Park & ride	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Transport Departments • Urban Planning Departments • Public Transport Operators • Coordinator of Regional Public Transport	• City districts • NGOs • Cycling association • Pedestrian associations • Environmental organization • Association of citizens with disabilities	• High acceptance and support by the public – but it has to be part of the overall city parking policy	• n/a
Road freight fleet management systems	b. Measure is being considered	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Cooperation with municipal transport departments • Road Maintenance organization	• Cooperation with developers • Shop owners • Big companies	• High acceptance and support by the public – to limit the transit transport	• n/a

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
New rail services	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	4 – very difficult to implement measure	• Transport Departments • Urban Planning Departments • Public Transport Operators • Coordinator of Regional Public Transport • Railway Authority	• City districts • NGOs • Cycling association • Pedestrian associations • Environmental organization • Association of citizens with disabilities	• High acceptance and support by the public	• n/a
Variable message signs	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Cooperation with municipal transport departments • Road Maintenance organization	• City districts • Universities, research organization – to develop the system •	• High acceptance and support by the public – because the system could help decrease the number of congestions	• n/a
Developer contributions	b. Measure is being considered	b. Measure planned to be integrated into SUMP	4 – very difficult to implement measure	• Transport Departments and other dept.	• Developers • City districts • Political bodies – - the discussion has to be hold between city and developers	• High acceptance and support by the public	• n/a
Demand responsive transport	b. Measure is being considered	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Transport Departments • Public Transport Operators • Coordinator of Regional Public Transport	• Cooperation with companies; universities and other employers • City districts	• High acceptance and support by the public – this type of service improve the quality of PT	• n/a

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Urban traffic control	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Cooperation with municipal transport departments • Road Maintenance organization	• City districts • NGOs • Cycling association • Pedestrian associations • Environmental organization • Association of citizens with disabilities	• High acceptance and support by the public	• n/a
Conventional traffic management	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Cooperation with municipal transport departments • Road Maintenance organization	• City districts • NGOs • Cycling association • Pedestrian associations • Environmental organization • Association of citizens with disabilities	• High acceptance and support by the public	• n/a
High occupancy vehicle lanes	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Cooperation with public transport operators and road maintenance	• Cooperation with car sharing institutions, Taxi drivers organization	• It is necessary to promote this measure to car users – to raise awareness on crashing • Citizens using public transport are highly accepting this measure	• n/a

3 BKK Centre for Budapest Transport: assessment of measure catalogue

Table 2: BKK - assessment of list of measures

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Road user charging	a. Measure is already adopted;	a. Measure already integrated into SUMP	4 – very difficult to implement measure	Lack of political support that would be essential to create the legal background	NGOs are aware of the measure and it is mostly accepted by them	Public resistance against the measure, which might be the main reason of the lack of political support	n/a
Regulatory restrictions	a. Measure is already adopted;	a. Measure already integrated into SUMP	4 – very difficult to implement measure	Districts not always support regulatory restrictions, because the intent to keep the incomes of parking fees	Shop keepers sometimes also afraid about losing parking spaces in the front of their shops, but after implementation they are satisfied	Local citizens are satisfied because of the decreasing volume of traffic and more liveable places	The measure has been implemented in several streets and zones of Budapest. The measure is well accepted in all group of stakeholders, institutional actors and public
Intelligent transport systems	a. Measure is already adopted;	a. Measure already integrated into SUMP	3 – fairly difficult to implement measure	Institutional actors are committed to the implementation, but they have to deal with budget constraints	Stakeholders are seeking for ITS solutions in order to create a more efficient network	ITS solutions are publicly popular because they make travel more comfortable and provide more information for people about the network.	Several ITS measures has been already implemented in Budapest

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Land use to support public transport	c. Measure has not been considered before	d. Measure not included in SUMP	5 – impossible to implement measure	- Land use planning is the responsibility of the Urban Development Department of the municipality. - BMT accepts the vision and the land use plans of the Urban Development Concept, but BKK does not have impact on land use planning - Currently the cooperation of transport planners and land use planners is out of scope in Budapest	n/a	n/a	Stakeholders and the public are not aware of land use planning issues.
Parking controls	a. Measure is already adopted;	a. Measure already integrated into SUMP	4 – very difficult to implement measure	- Currently there is no integrated parking control strategy in Budapest. - The districts are responsible for on-street parking control, but they mostly focus on the maximization of their incomes without parking management goals. - The Hungarian building Act regulates the number of on-street and off-street parking places of new buildings - The number of on-street parking places is slowly decreasing	- Stakeholders foster the decrease of on-street parking to provide more places for people in order to enhance the liveability of the city. - The number of private off-street parking garages and houses is growing, that expected to decrease the demand for on-street parking	- The slowly decreasing number of parking places results in extended searching time for free parking places. - Most of the drivers prefer off-street parking due to security reasons	Parking control measures has been already implemented in Budapest

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Development density and mix	c. Measure has not been considered before	d. Measure not included in SUMP	5 – impossible to implement measure	- Land use planning is the responsibility of the Urban Development Department of the municipality. - BMT accepts the vision and the land use plans of the Urban Development Concept, but BKK does not have impact on land use planning - Currently the cooperation of transport planners and land use planners is out of scope	n/a	n/a	Stakeholders and the public are not aware of land use planning issues.
Accident remedial measures	a. Measure is already adopted;	a. Measure already integrated into SUMP	2 – fairly easy to implement measure	- Accident remedial measures are mainly carried out by districts because they are responsible for the secondary road network. - BKK is also committed to implement safe and secure infrastructure elements that can reduce the number of accidents	The Hungarian Cyclists' Club and other NGOs support and promote safety measures, while design companies are also committed to create safe and secure infrastructure	The measures are mostly well accepted by the general public	Several accident remedial measures has been already implemented in Budapest
Pedestrian areas & routes	a. Measure is already adopted;	a. Measure already integrated into SUMP	3 – fairly difficult to implement measure	- Budapest implemented a high number a pedestrianisation measures during the last ten years. - The municipality is strongly committed to create walkable, and liveable places for citizens	n/a	n/a	measure already implemented

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
School travel plans	a. Measure is already adopted;	a. Measure already integrated into SUMP	2 – fairly easy to implement measure	- BKK is strongly committed to the implementation of school travel plans - BKK participated in IEE STARS project, and worked together with approximately 30 schools in Budapest. Some of them already implemented travel plans	- Hungarian Cyclists' Club strongly supports the implementation of school travel plans - Based on a cooperation agreement between HCC and BKK, HCC will continue STARS as a program and will upscale it to national level - Schools welcome the implementation of school travel plans	- High commitment and willingness to support this measure including pupils, teachers and parents - The mostly expected impact of the measure is the better safety at the environment of schools	measure already implemented in a small number of schools in Budapest
Urban traffic control	a. Measure is already adopted;	a. Measure already integrated into SUMP	3 – fairly difficult to implement measure	n/a	n/a	n/a	measure already implemented
Company travel plans	c. Measure has not been considered before	d. Measure not included in SUMP	2 – fairly easy to implement measure	BKK will implement its own company travel plan, but this measure is not included by the SUMP	- Hungarian Cyclists' Club strongly supports the implementation of company travel plans - Occasional implementation of company travel plans at various stakeholder can be observed but there is no general awareness of the measure	The measure is expected to be supported by the public, because it can result in more safe and efficient transportation	measure is implemented by a low number of stakeholders, but not included in the SUMP

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Bus rapid transit	c. Measure has not been considered before	d. Measure not included in SUMP	5 – impossible to implement measure	- The Municipality of the City of Budapest, BKK as the transport organizer and BKV as the in-house public transport organizer are strongly committed to the development of the existing urban railway network. - The attributes of the urban road network do not match with the needs of a BRT system, mostly because of the narrow cross-sections	NGOs and design companies also facilitate the development of the urban railway network to provide capacitive public transport services.	Public actors are not aware of this measure	- Budapest has an extensive urban railway network, including 4 metro lines, 5 suburban railway lines and 30 tram lines that give the core of the public transport network. - Less than 20% of the public transport network is consisted of urban railways, but they provide more, than 50% of the performance
Cycle networks	a. Measure is already adopted;	a. Measure already integrated into SUMP	3 – fairly difficult to implement measure	- BKK is strongly committed towards the implementation of measures that facilitates active transport modes - The Municipality of the city of Budapest supported the implementation of bike-friendly road network development and new bicycle infrastructure elements - Budapest Közút, the road operator fosters the prevention of conflicts between cyclists and other modes of transport	- Strong NGO activity carried out by Hungarian Cyclists' Club, who provide promotion activities, awareness raising and expertise for infrastructure design as well - All actors facilitates to create a safe and comfortable bicycle network without conflicts among different transport modes	- The measures are extremely successful, the number of cycling trips constantly increases - Car drivers complain about new parking rules (e.g. reverse parking) or introducing contra-flow cycling in one-way streets	High number of measures already implemented, while further projects are under preparation

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Promotional activities	a. Measure is already adopted;	a. Measure already integrated into SUMP	2 – fairly easy to implement measure	- One of the main tasks of BKK is to provide effective communication for customers. BKK actively supports all kind of positive communication related to environmentally friendly transport modes - the Municipality of the City of Budapest also supports BKK in promotion activities	Various NGO-s actively promote environmentally friendly urban transport solutions, such as the Hungarian Cyclists' Club, the Clean Air Working Group and the Urban and Suburban Transport Association	Citizens are open for promotion activities, such as advertisements, participation in competitive incentive schemes or at the European Mobility week. BKK has approximately 130 000 follower on its Facebook page	Promotional activities are continuously ongoing in Budapest with the participation of various actors
Parking charges	a. Measure is already adopted;	a. Measure already integrated into SUMP	4 – very difficult to implement measure	- Currently there is no integrated parking charging strategy in Budapest. - The districts are responsible for on-street parking fees, but they mostly focus on the incomes without parking management goals. - Off-street parking is mostly handled by private actors therefore it is not supported by the districts	- Stakeholders foster the decrease of on-street parking to provide more places for people in order to enhance the liveability of the city. - The number of private of-street parking garages and houses is growing, but they can apply individual parking charges	No resistance against parking fees, because the measure has been in place for more than a decade.	Parking charges measures has been already implemented in Budapest

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
New rail stations and lines	a. Measure is already adopted;	a. Measure already integrated into SUMP	4 – very difficult to implement measure	• The construction or reconstruction of the railway stations and lines belong to the national level in Hungary • The municipality, BKK and all interested actors provide support for this measure • BKK fosters better connectivity between national railways and urban transport in Budapest	• View on measure generally positive, but high coordination efforts expected since the number of different stakeholders is very high	• The public opinions vary regarding the railway development plans in Budapest, but the recently and partly reconstructed stations are well accepted	• Budapest Kelenföld and Budapest Keleti railway station were partly reconstructed in parallel with the implementation of the M4 metro line of Budapest
Bus regulation	a. Measure is already adopted;	a. Measure already integrated into SUMP	4 – very difficult to implement measure	• All the institutional actors supported the introduction of the new bus operation model after the establishment of BKK, due to the deteriorated and aged bus fleet	• Strong NGO activity was carried out by VEKE until the introduction of the new bus operation model • Private operators successfully participated in the tendering processes	• Citizens are satisfied with the results of the new bus regulation system. The renewal of the bus fleet ensures higher quality, more reliable and comfortable services for the passengers.	• Budapest introduced a new bus operation model after the establishment of BKK in 2010. Large part of the network is operated by the in-house operator (BKV), but three external operators also provide services on several bus lines. 600 new or second-hand low-floor buses arrived to Budapest since 2010, the average age of the complete fleet dropped by 9 year (from 18 to 9)

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Bike sharing	a. Measure is already adopted;	a. Measure already integrated into SUMP	4 – very difficult to implement measure	- Supported by the municipality, by BKK and other institutional actors as well - BKK carried out large scale promotional activities and addresses all the different user groups with various promotion activities	- Hungarian Cyclists' Club and design companies supported the design of the scheme by their expertise - Private actors invest in the implementation of new stations (e.g. parking garages, shopping malls)	- The scheme is very well expected, the average usage of the system is approximately 2 rents/bike/day - Users complain because of the weight of the bikes - Famous people in public life promotes the scheme	BKK launched the first public bike sharing scheme in Budapest in 2014 with 1100 bikes and 76 docking stations. The system has been extended by 22 new stations and 50 bikes, and further extension is under preparation
Road maintenance	a. Measure is already adopted;	a. Measure already integrated into SUMP	3 – fairly difficult to implement measure	- Road maintenance is carried out by Budapest Közút, the road operator in Budapest - The municipality and BKK facilitates the complex reconstruction of roads with regard to the need of public transport, cyclists and pedestrians with an aim to support environmentally friendly modes	NGO-s also facilitate the complex reconstruction of the road network instead of traditional maintenance work	Citizens often complain about the temporary closure because of reconstruction works, but the implemented solutions are well accepted	High quality standards for urban road design and maintenance is missing on the national level
Segregated cycle facilities	a. Measure is already adopted;	a. Measure already integrated into SUMP	3 – fairly difficult to implement measure	Institutional actors mostly support the implementation of bike lanes instead of segregated bicycle infrastructure, mainly because the space limitations in the city centre	Hungarian Cyclists' Club supports the implementation of segregated bike facilities outside of the city centre and in wide cross sections	Children, women and elderly people prefers segregated cycle facilities, while groups of well skilled cyclists prefer bike lanes and shared bike facilities	High number of measures already implemented, while further projects are under preparation

Table 3: BKK – assessment of package of measures

Packaging method	Measures in package	Assessment of feasibility of measure package	Comments
Packages	Road user charging, Pedestrian areas & routes, Accident remedial measures, Cycle networks, Intelligent transport systems, Bike sharing, Traffic calming measures, Lorry routes & bans, Park & ride, Light rail systems; package of 5 measures	3 – fairly difficult to implement measure package	• The political will for the implementation of road charging is currently missing. • All the other measures are supported, under design or already implemented.

4 City of Krakow: assessment of measure catalogue

Table 4: Krakow - assessment of list of measures

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Development density and mix	b. Measure is being considered	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	- Commitment from institutional actors to be considered high - Securing capacities and funding for long-term implementation - Support will only be gained if sufficient resources are ensured	- Support from local stakeholders (i.e. environmental and cycling NGO's) - Importance of inclusion of educational and cultural points of interested pointed out	- Low level of knowledge among citizens in this aspect (considering planning activities and necessity to mix services in terms of transport demand) - Generally no problems with acceptance, since districts with well developed and implemented mix of services are considered as better to live	Legal framework problems – high possibilities for housing developers in case of lack of Local Spatial Development Plans (ca. only 50% of city is covered with such plans) – makes difficult to coordinate spatial development of the city
Land use to support public transport	b. Measure is being considered	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	- Commitment from institutional actors to be considered high - Good cooperation among institutional actors responsible for public transport development - Sufficient resources are to be ensured	Fairly low interest among stakeholders in this aspects	- High level of public acceptance - High demand for accessibility and quality of local public transport - Increasing level of awareness about public transport services related to spatial development and coordination with local rail services and Park & Ride investments	Legal framework problems making coordination of spatial development difficult (see above)
Cycle networks	a. Measure is already adopted	b. Measure planned to be integrated	2 – fairly easy to implement measure	- Commitment from institutional actors to be considered high - Some problems with	Very high interest among stakeholders, being very active in this field (trough	Very high level of public acceptance (i.e. 85% of citizens voting for more investments in cycling network in local	Problems with “tempo” of investments, i.e. 10-15% increase of cycle network per year is not considered

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
		into SUMP		ensuring enough financial resources meeting expectations	educational, awareness raising campaigns, public events) • High pressure of NGO's on administration	referendum – 2014) • Increasing level of cycle usage as a main mean of transport • High demand for cycle network ensuring districts connections • Very high usage of cycle networks as a recreational activity	satisfactory • Some problems and delays in operation of local public bicycles systems • Increasing number of proper and safe solutions and smaller investments (like Tempo 30 zones, contra-lanes), but still in some cases problems of quality and safety of new developments
Pedestrian areas & routes	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	2 – fairly easy to implement measure	• Commitment from institutional actors to be considered high • Increasing level of acceptance among institutional actors	• High level of demand concerning pedestrianisation of city centre and more safe facilities for walking	• High level of acceptance • City centre is considered as good walking environment since 1980's	• Krakow has one of the largest pedestrian zones in EU, therefore not too many new pedestrianisation in the centre • Necessity to concentrate planning and implementations on other than city centre areas (i.e. infrastructural barriers connected to rail, tram networks and rivers)
Accident remedial measures	b. Measure is being	b. Measure planned to be	3 – fairly difficult to implement	• Commitment from institutional actors to be considered high	• Fairly low level of interest among stakeholders, as general level of road	• High level of public acceptance • Increasing awareness level concerning public costs of road	• Necessity to improve actions concerning speed limits exceeding

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
	considered	integrated into SUMP	measure	• Good level of cooperation with local Police • Not enough financial resources to cover the whole city (especially with speed controls)	safety is considered high	accidents • High level of exceeding of speed limits among drivers	
Parking charges	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	• Commitment from institutional actors to be considered high • City Council established new parking zone areas in 2014 and 2015	• Difficult negotiations with local stakeholders (especially retailers) • Good cooperation with private companies concerning mobile payments, etc.	• Low level of public acceptance • High demand for more off-street parking facilities and Park & Ride system • Parking issues in Krakow are commonly criticized	• Legal framework problems limiting possibilities of local authorities to use parking chargers as a transport policy tool (i.e. national law setting up maximum charges per hour in the zones)
Road user charging	b. Measure is being considered	d. Measure not included in SUMP	4 – very difficult to implement measure	• Commitment from institutional actors to be considered low	• No interest among local stakeholders in introducing road user charging	• Low level of public acceptance • Fear of introduction of ‘city entrance charge’ as being contrary to Krakow’s being touristic city	• Legal framework problems – for now no legal possibilities to introduce road user charging
Bike sharing	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	2 – fairly easy to implement measure	• Commitment from institutional actors to be considered high • Securing capacities and funding for long-term implementation	• High level of local stakeholders, increasing awareness of the previous systems and its importance as complementary public transport	• High level of acceptance • High level of demand for new sharing stations and more bicycles available • Some problems and complains concerning overall quality of the system (bikes maintenance,	• There is a big potential for this measure observed • Currently no system in operation (new one starting in August 2016 – with new modernized features)

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
					system	IT systems operation, etc.)	Long term agreement with the operator (8 years) considered as a very positive factor ensuring sustainability of the measure
Segregated cycle facilities	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	2 – fairly easy to implement measure	- Commitment from institutional actors to be considered high - Securing capacities and funding for long-term implementation	- Very high interest among stakeholders, being very active in this field (through educational, awareness raising campaigns, public events) - High pressure of NGO's on administration	- Very high level of public acceptance (i.e. 85% of citizens voting for more investments in cycling network in local referendum – 2014) - Increasing level of cycle usage as a main mean of transport - High demand for cycle network ensuring districts connections - Very high usage of cycle networks as a recreational activity	Increasing number of proper and safe solutions and smaller investments (like Tempo 30 zones, contra-lanes), but still in some cases problems of quality and safety of new developments
Intelligent transport systems	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	Commitment from institutional actors to be considered high	Low interest among stakeholders, mainly concerning high costs of new ITS investments	- Low level of public interest in implementation of IT solutions - Facilities installed so far (i.e. informational VMS for drivers) are not considered as helpful or necessary	Several ITS solutions already implemented, mainly for vehicle transport and supporting public transport (both customers and operations issues)
Road maintenance	a. Measure is already adopted	b. Measure planned to be	3 – fairly difficult to implement measure	- Commitment from institutional actors to be considered low - Long term problems	High demand of local stakeholders (i.e. industry) for better maintenance and	- High level of demand from local public - Overall state of the maintenance and quality of	Delays and lack of funds in previous years makes it difficult to keep overall level of road maintenance

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
		integrated into SUMP		with road maintenance and securing enough funding	quality of road infrastructure	infrastructure is considered low in comparison to other cities in PL and EU	on satisfactory level
Promotional activities	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	2 – fairly easy to implement measure	- Commitment from institutional actors to be considered high - More and more institutions from public sectors understand importance of promotional activities	High level of commitment among NGO's, very active in organization of different promotional actions (mainly concerning cycling, sustainable mobility and environmental protection)	- High acceptance among public - Increasing participation level of public, especially in cycling – related promotional events and events interesting for children (like open days of Public Transport Museum)	- Generally increasing level and quality of different promotional actions - Necessity to improve evaluation activities related to promotional actions (i.e. how this affected different transport behaviours)
School travel plans	b. Measure is being considered	b. Measure planned to be integrated into SUMP	2 – fairly easy to implement measure	- Cooperation with educational bodies (school authorities, education department, police) established within STARS EUROPE project - Commitment from institutional actors to be considered high	- First actions to develop school travel plans initiated within STARS EUROPE project - Very good cooperation with local cycling NGO (Kraków Miastem Rowerów) - View on measure generally positive, but high coordination efforts	- High acceptance and support by the public expected - Many measures already implemented with good cooperation with school children, parents and teachers - High commitment and willingness to support this measure expected from parents	- Continuation of STARS project in Krakow (for at least 3 years) is supposed to influence number and quality of school travel plans - High level of home to school in trips in Krakow (up to 20% of all trips) is considered as an important area for improvements

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
					expected since stakeholders will vary for each school district		
Urban traffic control	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	4 – very difficult to implement measure	• Commitment from institutional actors to be considered high • Not enough financial capacities for long-term implementation	• Low level of interest among stakeholders (measure considered as an operational issue)	• Generally high level of acceptance among public, however many complaints about current operation of UTC (i.e. not enough priorities and delays of trams)	• UTC is introduced and in operation, new elements are being added on a constant basis
Regulatory restrictions	b. Measure is being considered	b. Measure planned to be integrated into SUMP	4 – very difficult to implement measure	• Commitment from institutional actors to be considered high • Securing capacities and funding for long-term implementation • Support will only be gained if sufficient resources are ensured	• High pressure from different environmental organizations to introduce further access restrictions for private cars (especially concerning relation of car engine quality to air pollution) – environmental zones considered as an important and urgent measure to be introduced • Low level of acceptance and difficult cooperation with stakeholders	• Low level of acceptance for more restrictions, as currently zone-based access restrictions are considered as high and at maximum level	• Many legal constraints making it difficult to consider this measure as of high importance and feasibility

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
					working in the touristic sector		
New rail stations and lines	b. Measure is being considered	b. Measure planned to be integrated into SUMP	4 – fairly difficult to implement measure	- Commitment from institutional actors to be considered high - Good cooperation with regional rail operator (Koleje Małopolskie) - Securing capacities and funding for long-term implementation	High pressure from local organisations to introduce inner-urban rail system	- High acceptance for the measure - High demand for better operations of rail system as a main traveling option for metropolitan area	- New stations and lines are currently introduced - Plan of local urban light rail system is being developed
Park & ride	b. Measure is being considered	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	Commitment from institutional actors to be considered high	- Pressure from local stakeholders for faster implementation of the system - Many objections concerning locations of planned facilities	- High acceptance level from the public - Measure seems to be overvalued by the citizens in terms of its efficiency and possible solution to overall high congestion problem in Krakow	Currently operating P&R facilities provide good results (especially when connected to rail system-P&R for Wieliczka town)
Barrier-free mobility	b. Measure is being considered	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	- Commitment from institutional actors to be considered low - Necessity for more educational and awareness raising actors among local	- Active stakeholders pressuring for better solutions and introduction of “design for all” concept - Good examples of	- High acceptance and understanding level for solutions for barrier-free mobility - Increasing knowledge and awareness level	- Many solutions already implemented, but quality in some cases is considered low - Importance of improvement in the cooperation among

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
				institutional partners	cooperation between city and NGO's related to persons with reduced mobility - Active ombudsman of the Mayor, responsible for overall coordination of "barrier-free" mobility - Yearly programs of improvements of mobility for disabled, adopted by City Council		different actors and implementation of "design for all" concept in the next years
Parking controls	a. Measure is already adopted	b. Measure planned to be integrated into SUMP	3 – fairly difficult to implement measure	- Commitment from institutional actors to be considered high - Increased level of acceptance of City Council	Problems with convincing stakeholders related to local businesses, services and retailers	- Low level of public acceptance - Already existing parking controls are considered as too wide	Legal framework problems limiting possibilities of local authorities to use parking chargers as a transport policy tool (i.e. national law setting up maximum charges per hour in the zones)
Parking standards	b. Measure is being considered	b. Measure planned to be integrated	3 – fairly difficult to implement measure	Commitment from institutional actors to be considered high	Most problems with stakeholders are generated by lack of proper law regulations in place	- Neutral attitude of the public - Generally paying for a parking space connected to household (in new developments) is	Problems with controlling level of parking potential implemented on private areas

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
		into SUMP			(i.e. some standards are set in official planning documents, but not treated as obligatory to follow)	perceived as a standard case • Still low level of understanding of necessity to introduce maximum parking standards in many cases	

Table 5: Krakow – assessment of package of measures

Packaging method	Measures in package	Assessment of feasibility of measure package	Comments
Packages	• Cycle networks • Accident remedial measures • Pedestrian areas & routes • Land use to support public transport • Bike sharing	2 – fairly easy to implement measure package	• This measure package received highest score from KonSULT out of 20 generated packages • All measures generated in the package are already implemented (but to different extent and with different public/stakeholder acceptance level) • Package gives strong value for measures related to walking & cycling – which in a good way reflects current situation of these modes and previous actions of the city in that field (i.e. large pedestrian areas in the city centre/touristic character of the city, increasing importance of cycling and its usage as a main mode for daily transport /ca.1% increase per year/) • Concerning packaging as a mean to increase the level of acceptance – generally for measures included in the package there is high support and acceptance level among institutional partners, stakeholders and the public, there are no measures included which have the strongest opposition (like road user charging for example) • Packaging of the measures in this particular example shall be considered more as a improved promotional activities, measures linked with each other and more information provided why these certain measures can have big impact on local mobility in terms of making it more sustainable – so far these measures are rather developed and introduced separately, therefore packaging with strong emphasis on public awareness and participation shall help in smooth and faster implementation of these measures

5 City of Timisoara: assessment of measure catalogue

Table 6: Timisoara – assessment of list of measures

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Pedestrian areas&routes	a. Measure is already adopted	a. Measure already integrated into SUMP	2 – fairly easy to implement measure	Commitment from institutional actors to be considered high – in the first phase 4 squares and 10 streets in central area were transformed in pedestrian area; in SUMP it is proposed to extend this area	View on measure generally positive	View on measure generally positive	- Especially for pedestrian areas is necessary to have a very clear and comprehensive regulation for inhabitants, companies etc. - A barrier is considered to be the lack of parking facilities in central area of the city
Cycle networks	a. Measure is already adopted	a. Measure already integrated into SUMP	2 – fairly easy to implement measure	Commitment from institutional actors to be considered high	Commitment from stakeholders and cyclists NGO's to be considered high	View on measure generally positive	n/a
Real time passenger information	a. Measure is already adopted	a. Measure already integrated into SUMP	2 – fairly easy to implement measure	Commitment from institutional actors to be considered high	Commitment from public transport operator to be considered high	The existing information system was very well received by general public so we expect high acceptance and support for extending/improving it	n/a
Parking charges	a. Measure is already adopted	a. Measure already integrated into SUMP	3 – fairly difficult to implement measure	Commitment from institutional actors to be considered high	Commitment from stakeholders to be considered high	It is not a popular measure so we don't expect to a high acceptance and support from public	it is planned to further increase parking charges so that the parking ticket in the city centre exceeds the price of a public transport ticket per day, and to build parking places at the

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
							entrances of the city
Conventional timetable & service information	a. Measure is already adopted	a. Measure already integrated into SUMP	2 – fairly easy to implement measure	Commitment from institutional actors to be considered high	Commitment from public transport operator to be considered high	View on measure generally positive	n/a
Traffic calming measures	a. Measure is already adopted	a. Measure already integrated into SUMP	2 – fairly easy to implement measure	Commitment from institutional actors to be considered high	Commitment from public stakeholders to be considered high	View on measure generally positive	n/a
7.New road construction	a. Measure is already adopted	a. Measure already integrated into SUMP	3 – fairly difficult to implement measure	- Commitment from local institutional actors to be considered high - Commitment from national institutional actors depends to a large extent on political decisions	Commitment from stakeholders to be considered high	View on measure generally positive	n/a
Urban traffic control	a. Measure is already adopted	a. Measure already integrated into SUMP	3 – fairly difficult to implement measure	Commitment from institutional actors to be considered high – it is required the cooperation between City Hall, Police, Public Transport Operator and other public institution	Commitment from stakeholders to be considered high	High acceptance and support by the public expected	Because the „Traffic management and video surveillance“ project is still under implementation the extension of this project is propose into SUMP
Bike sharing	a. Measure is already adopted	a. Measure already integrated into SUMP	2 – fairly easy to implement measure	Commitment from institutional actors to be considered high	Commitment from public transport operator, cyclists NGO's and other stakeholders to be considered high	- View on measure generally positive - The existing system of bike sharing, finished in 2015, is very well receive by public	n/a
Integrated ticketing	a. Measure is already adopted	a. Measure already integrated	2 – fairly easy to implement	Commitment from institutional actors to be	Commitment from public transport	View on measure generally positive	n/a

Name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
		into SUMP	measure	considered high	operator to be considered high		
Variable message signs	a. Measure is already adopted	a. Measure already integrated into SUMP		Commitment from institutional actors to be considered high	Commitment from stakeholders to be considered high	High acceptance and support by the public expected	This measure is part of the traffic management system

Table 7: Timisoara – assessment of package of measures

Packaging method	Measures in package	Assessment of feasibility of measure package	Comments
Packages	Cycle networks Urban traffic control	2 – fairly easy to implement measure package	- This package is partially implemented in Timisoara – about 73 km of cycling paths and a project of traffic management under implementation - In Timisoara has been a significant increase number of cyclist during the last few years so any measure regarding cycling infrastructure is very well received, specially by NGOs and public - After the traffic management system will be implemented it will be much easier to improve it and/or to extend it at more intersections from city and metropolitan area

6 City of Zagreb: assessment of measure catalogue

Table 8: Zagreb – assessment of list of measures

Rank and name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Road user charging	Measure is being considered	no SUMP	fairly difficult to implement measure	• Medium acceptance and support	• Medium acceptance and support	• Medium acceptance and support	• Low level of awareness of benefits among users
Pedestrian areas & routes	Measure is already adopted	no SUMP	fairly easy to implement measure	• Cooperation with University already established in activities of education of young experts in importance of improvement of open public spaces	• View on measure is generally positive, but high coordination efforts are needed to fulfil different needs of different stakeholders	• High acceptance and support	• Positive factors are that measures already been implemented by other plans before, which means that further implementation would be continuing good practice examples
Accident remedial measures	Measure is being considered	no SUMP	fairly difficult to implement measure	• high acceptance and support	• high acceptance and support	• high acceptance and support	• Positive driver is high acceptance, but implementation of this measure depends on implementation of range of other measures
Lorry routes & bans	Measure is being considered	no SUMP	fairly easy to implement measure	• Medium acceptance and support	• Medium acceptance and support	• Medium acceptance and support	• The positive driver is that part of the measures have already been applied but full implementation asks for further improvement

Rank and name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
School travel plans	Measure is being considered	no SUMP	fairly easy to implement measure	high acceptance and support	high acceptance and support	high acceptance and support	The positive driver is that part of the measures have already been applied but full implementation asks for further improvement
Regulatory restrictions	Measure is being considered	no SUMP	fairly easy to implement measure	high acceptance and support	high acceptance and support	high acceptance and support	Positive factors are that measures already been implemented by other plans before, which means that further implementation would be continuing good practice examples
Cycle networks	Measure is already adopted	no SUMP	fairly easy to implement measure	high acceptance and support	high acceptance and support	high acceptance and support	Positive factors are that measures already been implemented by other plans before, which means that further implementation would be continuing good practice examples
Parking standards	Measure is already adopted	no SUMP	fairly easy to implement measure	high acceptance and support	high acceptance and support	high acceptance and support	Positive factors are that measures already been implemented by other plans before, which means that further implementation would be continuing good practice examples
Off street parking	Measure is already adopted	no SUMP	fairly easy to implement measure	high acceptance and support	high acceptance and support	high acceptance and support	Positive factors are that measures already been implemented by other plans before, which means that further implementation would be continuing good practice examples
Parking charges	Measure is already adopted	no SUMP	fairly easy to implement measure	high acceptance and support	high acceptance and support	high acceptance and support	Positive factors are that measures already been implemented by other plans before, which means that further implementation would be continuing good practice examples
Parking controls	Measure is already adopted	no SUMP	fairly easy to implement measure	high acceptance and support	high acceptance and support	high acceptance and support	Positive factors are that measures already been implemented by other plans before, which means that further implementation would be continuing good practice examples

Rank and name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Development density and mix	Measure is being considered	no SUMP	fairly difficult to implement measure	• Medium acceptance and support	• Medium acceptance and support	• Medium acceptance and support	• Low level of awareness of benefits among users
Bike sharing	Measure is already adopted	no SUMP	fairly easy to implement measure	• high acceptance and support	• high acceptance and support	• high acceptance and support	• Positive factors are that measures already been implemented by other plans before, which means that further implementation would be continuing good practice examples
Segregated cycle facilities	Measure is being considered	no SUMP	fairly difficult to implement measure	• high acceptance and support	• high acceptance and support	• high acceptance and support	• Low level of awareness of benefits among users
Cycle parking & storage	Measure is already adopted	no SUMP	fairly easy to implement measure	• high acceptance and support	• high acceptance and support	• high acceptance and support	• The positive driver is that part of the measures have already been applied but full implementation asks for further improvement
Promoting low carbon vehicles	Measure is already adopted	no SUMP	fairly difficult to implement measure	• high acceptance and support	• high acceptance and support	• high acceptance and support	• The positive driver is that part of the measures have already been applied but full implementation asks for further improvement
Pedestrian crossing facilities	Measure is already adopted	no SUMP	fairly easy to implement measure	• high acceptance and support	• high acceptance and support	• high acceptance and support	• Positive factors are that measures already been implemented by other plans before, which means that further implementation would be continuing good practice examples
Road maintenance	Measure is already adopted	no SUMP	fairly easy to implement measure	• high acceptance and support	• high acceptance and support	• high acceptance and support	• Positive factors are that measures already been implemented by other plans before, which means that further implementation would be continuing good practice examples
Parking guidance systems	Measure is being considered	no SUMP	fairly easy to implement measure	• high acceptance and support	• high acceptance and support	• high acceptance and support	• Positive factors are that measures already been implemented by other plans before, which means that further implementation would be continuing good practice examples

Rank and name of measure	Planning situation	Integration into SUMP	Assessment of feasibility	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation
Traffic calming measures	Measure is already adopted	no SUMP	fairly easy to implement measure	high acceptance and support	high acceptance and support	high acceptance and support	- Positive factors are that measures already been implemented by other plans before, which means that further implementation would be continuing good practice examples; - Negative factor is lack of legal framework

Table 9: Zagreb – assessment of package of measures

Packaging method	Measures in package	Assessment of feasibility of measure package	Comments
Packages	1. Off street parking, 2. Cycle networks, 3. Pedestrian crossing facilities, 4. Road user charging, 5. Pedestrian areas & routes	3 – fairly difficult to implement measure package;	According to results of Piloting workshops, we find that packaging the measures would increase support and acceptance compared to the support for individual measure

7 Assessment template for Advancing Cities

Assessment of list of measures

1. Familiarise again with the **D4.2 SUMP measure catalogues** deliverable (available on [SharePoint](#)).
2. Check your city's **list of measures** that KonSULT generated based on the settings you had chosen (area type, objectives, problems, indicators).
3. If you generated more than one list of measures in D4.2, select **one list**³ that seems most applicable to your local planning situation.
4. Take this list and complete **Table 1** below for each of the 20 measures.
 - Table 1 provides an **example** for one measure for orientation.
 - Please write at least **one bullet point** in the columns on institutional actors, stakeholders and the public.
 - The length of comments provided per measure can **vary** depending on the planning situation in your city, how controversial the measure is and how likely support, commitment and backing are (or whether the measure is already adopted).

Assessment of packages of measures

1. Check the **package of measures** that you generated. If you generated more than one package, select the package that seems most applicable to your local planning situation.⁴
2. Take this package of measures and assess the package in **Table 2**. Do this:
 - for at least the **top score** package option if you chose the “**packages**” method (you can also assess the lower score options if you wish); or
 - for the **set of complementary measures** if you chose the “**complementary**” method.
3. You do not need to analyse each single measure (as you have done that in the first table already) but should critically reflect on the package as a whole and assess its overall likeliness in terms of feasibility, support and acceptance.

³ Brno, Krakow, Timisoara and Zagreb generated one list of measures for D 4.2, while Budapest generated two lists.

⁴ Brno, Krakow, Timisoara and Zagreb generated one package of measures (Krakow, Timisoara and Zagreb for ‘packages’ settings, Brno for ‘complementary’ settings); Budapest generate two ‘packages’ packages and three ‘complementary’ packages

Table 1: Assessment of list of measures

Rank and name of measure	Planning situation ⁵	Integration into SUMP ⁶	Assessment of feasibility ⁷	Assessment of view of institutional actors	Assessment of view of stakeholders	Assessment of public acceptance	Other factors relevant to implementation ⁸
<u>Example:</u> 1. School travel plans	b. Measure is being considered	b. Measure planned to be integrated into SUMP	2 – fairly easy to implement measure	- Cooperation with educational bodies (school authorities, education department, police) not yet established - Commitment from institutional actors to be considered high - Securing capacities and funding for long-term implementation of school travel plans major issue for institutional actors, therefore support will only be gained if sufficient resources are ensured	- First actions to develop school travel plans observed at neighbourhood level initiated by local stakeholders (neighbourhood association, children's club, cycling association) - View on measure generally positive, but high coordination efforts expected since stakeholders will vary for each school district	- High acceptance and support by the public expected since road safety for children is a major topic in our city; measure X and X on school trips are already in place - High commitment and willingness to support this measure expected for parents	Complex educational system in our country with split responsibilities for school-related infrastructure, maintenance and educational programmes might hamper effective allocation of responsibilities
				•	•	•	•
				•	•	•	•
				•	•	•	•

⁵ a. Measure is already adopted; b. Measure is being considered; c. Measure has not been considered before

⁶ a. Measure already integrated into SUMP; b. Measure planned to be integrated into SUMP; c. Measure currently under discussion for SUMP; d. Measure not included in SUMP; e. Not applicable (no SUMP)

⁷ 1 – very easy to implement measure; 2 – fairly easy to implement measure; 3 – fairly difficult to implement measure; 4 – very difficult to implement measure; 5 – impossible to implement measure

⁸ Can be both drivers (positive factors) and barriers (negative factors) related, for example, to the legal framework, local or regional political situation, technical and infrastructure issues

Table 2: Assessment of package of measures

Packaging method ⁹	Measures in package ¹⁰	Assessment of feasibility of measure package ¹¹	Comments ¹²
			• • •

⁹ a. Packages b. Complementary measures

¹⁰ List the measures included in the measure package you chose

¹¹ 1 – very easy to implement measure package; 2 – fairly easy to implement measure package; 3 – fairly difficult to implement measure package; 4 – very difficult to implement measure package; 5 – impossible to implement measure package

¹² Please comment on feasibility, support and commitment of institutional actors, stakeholders and the public for this package compared to the support for individual measure(s), i.e. would packaging the measures increase support and acceptance of these?

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