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Good practice in the context of delivering the White Paper

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1 Extended Summary

In the White Paper - Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system – (European Commission, 2011) ten goals are described which aim to reduce GHG emission from the transport sector by 60%. Four of those goals are being addressed in the TRANSFORuM project; Goal number 1 – urban transport, goal number 3 – long distance freight, goal number 4 – high speed rail transport and goal number 8 – a multimodal transport information, management and payment systems.

The overall aim of the TRANSFORuM project is to facilitate the implementation of these goals. Thus, one important task for the TRANSFORuM project is to understand what measures, policies, initiatives and activities are currently underway that could contribute to meeting the goals.

The TRANSFORuM project has therefore undertaken a series of tasks to contribute to answering the question "What effective solutions do we already know?" This is of key importance, not just in its own right, but in terms of the development of relevant recommendations and roadmaps that can facilitate successful implementation.

The aim of this part of the project, and this report, was to investigate what 'good practice' looks like in the context of delivering the White Paper goals and ascertaining what the most useful insights on successful measures relevant for the implementation of the White Paper goals 1, 3, 4 and 8 are. Additionally to explore similarities that exist between the goals in this context and in terms of sharing information and knowledge transfer.

This report is therefore concerned with understanding the processes and policies that have enabled such activities to occur. Through the development of a set of criteria, internal discussions and through stakeholder consultation, it has been possible to go some way towards understanding what good practice looks like. Examples of good (and bad) practice have been identified and subsequently commonalities across the themes have been found that can be taken forward in the project. The methods used to undertake this activity are outlined thoroughly in this report. The main results can be summarized as follows:

- **Success Factors:** Common elements that have led to successful outcomes have been uncovered in the case studies and workshops. Working in partnership and implementing packages of measures were highlighted. Sharing, mentoring and strong leadership were also demonstrated.
- **Barriers or Failure Factors:** Issues related to financing were identified in all of the four goal areas. The most common barriers to action highlighted were the existing system into which developments are introduced, while infrastructural and technological barriers were also evident.

2 Introduction

In the White Paper - Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system – (European Commission, 2011) ten goals are described which aim to reduce GHG emissions from the transport sector by 60%. Four of those goals are being addressed in the TRANSFORuM project; Goal number 1 – urban transport, goal number 3 – long distance freight transport, goal number 4 – high speed rail transport and goal number 8 – a multimodal transport information system.

- Goal number 1 focuses on CO_2 emissions in urban areas and states that by 2030 the use of conventionally-fuelled cars should be halved and be completely phased out by 2050. In addition to this, it sets out to achieve essentially CO_2-free city logistics in major urban centres by 2030. It also targets an improvement in urban air quality and a reduction in dependence on oil in urban mobility.
- Goal number 3 aims towards a shift of modes for long distance freight. Thirty per cent of road freight over 300 km should shift to other modes such as rail or waterborne transport by 2030, and more than 50% by 2050, facilitated by efficient and green freight corridors.
- Goal number 4 focuses on the implementation of a European high speed rail network and states that the length of the existing high-speed rail network should triple by 2030 and by 2050 the majority of medium-distance passenger transport should go by rail, with all network airports connected.
- Goal number 8 deals with Intelligent Transport Systems (ITS) and aims to develop a framework for a European multimodal transport information, management and payment system until 2020.

In the TRANSFORuM project, each of the goals is examined by a Thematic Group, and allocated to a Thematic Group leader to coordinate project activities relevant to the goals.

The selection and analysis of case studies for each Thematic Group is not an end in itself but is directly related to the work of the project which is linked to key trends as well as to exploring barriers and challenges. It will also have a role to play in the roadmapping work which will follow. The case studies developed highlight in practice the successful implementation of the identified policy examples, the practical use of funds and the role of stakeholders and actors. The case studies help understanding how barriers and challenges can be managed which links to the work of WP4 and the insight derived from this work is most enlightening. Finally, and perhaps most importantly the case studies can serve as useful insights to feed into the roadmaps and recommendations and form the real-life status-quo for the strategic outlook.

With these linkages in mind, a number of common issues are considered in this report with a view that the following questions can be answered in the context of each of the four Thematic Groups:

- Which good-practice examples may help implementing the White Paper goals?
- How to utilise Good-Practice and transfer drivers for success from national to the EU level with a view at the 40 White Paper initiatives?
- What is the role of the European Commission and the attached funding mechanisms?

Moreover, similarities between the Thematic Groups and therefore the White Paper goals will be uncovered and where relevant taken forward to the remainder of the work in the project.

The structure of the document has these key points in mind. Following a concise outline of good practice, policy and knowledge sharing and transfer, this report is structured according to the chronological timeline of the project. The linkages between the work already undertaken in TRANSFORuM, related to key trends and actors, and to barriers and challenges are highlighted, before a detailed methodology and explanation of the process that was undertaken to complete the work is given. The major findings from both the case study repository and the Autumn workshops are then discussed and the key insights in terms of common success (and failure) factors, similarities between cases (and across Thematic Groups) are outlined. Finally insight which is useful for the roadmapping process is outlined.

3 Good practice - overview

In order to obtain an understanding of what good practice means in the context of the White Paper it is first and foremost important to determine good practice in a more general sense and to define some boundaries around what is under consideration. The insights gathered from the literature review inform the case study template design. This section offers guidance on how the concept of transformational measures is addressed and defined in TRANSFORuM.

Firstly in terms of the approach taken in TRANSFORuM, case studies are important because they offer a method to study and evaluate interventions made by governments or businesses and help to determine how particular practices have been successful – or 'good' practice. According to Crabbe and Leroy (2008), case studies can consider any phase of the policy cycle and can be used to analyse agenda-setting, policy formation, policy choices and policy implementation. TRANSFORuM takes this understanding and applies it to the broader context of practices, initiated or managed by government or other organisations or institutions.

Bardach (2005; 2012) suggests that a practice is a tangible and visible behaviour. Some of the focal points of the TRANSFORuM cases are other entities, artifacts or measures, (technologies, train routes, payment systems) and the processes through which these have been procured, developed, implemented, organised, shared or communicated. Therefore Bardach's definition is extended to incorporate elements that in some way demonstrate contributions towards achieving the White Paper goals under discussion.

In terms of the study of good practice, Bardach also highlights that whilst it is sensible to investigate what kinds of solutions have been tried out in other locations or by other authorities; it is

never wise to place too much emphasis on best or good practices. This is because it is often unclear whether something identified as 'good' has in fact solved or ameliorated the problem it was intended to address. If this appears to be the case, it may be that the good practice itself had very little to do with the success. Moreover, Dye (2005) suggests that even if programs and policies are well organized, efficiently operated, adequately financed and generally supported by major interest groups, this does not guarantee that they will work or derive societal benefit. There may be additional factors which contribute to the success or failure of a given measure. Furthermore, Marsden and Stead (2011) point out that it cannot be assumed that success in one setting will result in success in another. This was taken into consideration when producing the case studies for TRANSFORuM and as such each case reflects on the broader context and on the processes through which measures were implemented.

Bardach goes on to suggest that "best practices research" usually turns up good ideas about what does *not* work as well as what does. McConnell (2010) points out that frequently policies (or in this case practices and initiatives) will inherently have shortcomings or fail in some way. It is important not to consider success and failure as mutually exclusive. There may indeed be instances were different parts of the practice (process or content of a measure) may succeed or fail. Therefore success and failure factors (or barriers/challenges which pose a threat to any given measure) were also investigated in any given case and investigations were made as to whether these negative factors could be removed or overcome.

Finally because it has been highlighted in previous research there has been little evaluation of the success (or failure) of policies that have subsequently been transferred to another context (Marsden and Stead, 2011). Therefore, it was identified as a priority to consider whether case studies have learned from other policies or measures, as well as where lessons could be learned from the information in the case studies that could potentially be transferred to other European contexts.

Transformation is defined as a change or alteration, especially a radical one (Harper Collins, 2003). Such a broad definition is useful in the scope of this report and the White Paper, given the diversity of goals to be realised and the various starting points each sector, urban area, or company or government finds itself in. Incremental change can contribute to an end point of transformation, as can more wholesale, rapid or radical change. A wide range of measures are discussed in sections 6 and 7 of the report relevant to understand what is required to deliver the White Paper goals.

4 What we already know: insight from previous deliverables

As a starting point to frame the good practice work undertaken in TRANSFORuM, it is important to utilise the information already garnered around key trends, actors, barriers and challenges.[1]

[1] Deliverable 3.1 - Summary on main policies, funding mechanisms, actors and trends; Deliverable 4.1 - Challenges and Barriers for a sustainable transport system – state of the art report; Deliverable 4.2 - Challenges and Barriers for a sustainable transport

4.1 Key Trends

This section will highlight how the trends identified earlier in the project have been taken into consideration in this work. It was highlighted that the White Paper is not being implemented as a blank slate, but rather that there are already a large number of policies being implemented. As such this work is intended to understand in more detail what these activities are and what they can tell us about effective policy implementation. It also highlights the need for additional policies and for issues that are important to all areas of the White Paper – and therefore to each of the goals under investigation in TRANSFORuM – such as standardisation and subsidiarity and allows to understand them better. As will be outlined more in section 5.2, the stakeholder workshops conducted for each thematic group on the topic of good practice in the context of the White Paper focused on understanding these issues.

As policies, funding mechanisms and actors were identified as important to consider, these themes including their theme-specific trends were investigated across all Thematic Groups. Moreover relevant context information about e.g. demography, economic growth, environmental and social conditions was gathered and analysed.

4.1.1 Urban mobility goal

In terms of the goal on **Urban Mobility**, demand for transport was identified as a key trend. As highlighted in the White Paper, curbing mobility is not an option and therefore any measures which have the direct mandate of reducing travel are out of scope. However broader initiatives such as sustainable urban mobility planning and curbing urban sprawl were considered in some of the case studies as these were identified as trends and could contribute to delivering the urban goal whilst not curbing mobility.

Technological developments, alternative fuels and vehicle technologies – including achieving economies of scale for electric vehicles were further identified as trends. Public transport development and hybridisation are also identified trends that the case studies pick up on. In terms of ICT deployment and smart mobility services there is a clear cross-over between the Urban and ITS theme case studies, which will be discussed further in section 7. Finally, in terms of the city logistics element of the urban mobility goal, case studies cover elements such as last mile transport and urban consolidation centres, which were highlighted in the work on trends as areas which will receive growing attention in the future.

It was suggested that inefficient pricing, inadequate research policy and the lack of integrated transport planning were challenges which need to be addressed. These issues will be held up alongside the issues that were uncovered in the case studies and workshops to see how much agreement there is between large scale challenges and 'on-the-ground' barriers to policy or initiative implementation.

It was ascertained that urban guidelines should be established, which are flexible enough to implement EU level strategies and that the national level should play a coordination role across the other levels (local, national and EU) as well as collaborate with other Member States. Collaboration

with business was also seen as important. These interactions and relationships were also reflected on in the workshop and case studies.

4.1.2 Freight goal

The ideal means through which to achieve the freight goal were identified to be cross-border corridors operating without technical or administrative obstacles. In order to achieve these conditions the quality of rail and waterway transport needs to be improved, as does the current capacity available across these modes. Therefore case studies that reflect on corridors operating effectively cross-border with specific attention on removing operational obstacles were identified. Efforts which were increasing rail and port infrastructure (and therefore investment in these areas) were also identified as trends and case studies covering these areas were selected. However the reduction in road investment that was seen as necessary to go along side these increased investments in the two other modes was hard to reflect on, but nonetheless remains a fundamental consideration to take into account in the roadmaps.

A better coordination across government levels and a freight sector which was more open to new players and to entities which could create more capacity were identified as being important and as will be seen in section 6.2, certain case studies address these issues of creating more capacity or better utilising the existing capacity across modes.

An important element that was highlighted as a trend was the need for new technologies to promote mode sharing and the shift from road to rail and waterways. As such some transhipment technologies are considered in the case studies in the freight section of the repository. Switzerland was highlighted as a good practice case in freight transport, due to its dedicated financing and long term planning. Following subsequent investigation, Switzerland's freight transport policy package was shortlisted as a case study. In addition, Basel was selected as a location for the Freight workshop (see section 5.2.3.2).

Other trends identified that were taken under consideration in the freight case studies include modal shares, total freight volume development, rebuilding ports and infrastructure investments.

4.1.3 HSR goal

Key issues that need to be addressed in order to deliver the HSR goal include the need for interoperability and intermodality within the member states and across borders, especially given the diversity in national models and intercultural differences that currently exists. Financing of HSR and funding for infrastructure were identified as important issues, in terms of the role of the state. The trend towards more public private partnerships (PPPs) was also highlighted. It was suggested that rail institutions need to be rethought in order to tackle these concerns. The Swedish HSR decision making process was selected as a case study as it was an example highlighted earlier in the project, demonstrating that new decision-making processes are beginning to take account of a broader array of concerns (see section 6.1.6).

Of fundamental importance is the disparity and complexity within a European market that operates through both monopoly and collaborative models of ownership, which makes competition

between operators complicated. Similar tensions exist between the rail and air sectors, between the passenger and freight rail sectors, and between the differences in delineation of high speed or very high speed lines, and conventional lines and dedicated high speed lines, in different contexts across Europe. The case studies selected consider where possible how these complexities are being addressed.

Perhaps the most fundamental question which has arisen from TRANSFORuM efforts to date has to do with whether the goal has the correct focus. In terms of trends this was phrased as whether increasing passenger volumes ("tripling the demand for" and public acceptance of) and the range and quality of services should also be thought about alongside the tripling of the network length. As these areas have been perceived as important in terms of 'good' practice; as will be seen in section 5.1.4.3, the case studies selected consider these elements to gain insights on these areas as well as on the length and development of the network.

4.1.4 ITS goal

For ITS, making use of existing infrastructure and capturing choice criteria for all users were identified as key priorities alongside making transport multi-modal, more efficient, safer and greener. Cases which reflect progress in these areas were selected as some of the ITS good practice studies. It was identified that the interfaces which would enable the delivery of the goal need to enable interoperability across borders and modes and allow information exchange between different transport providers and users and therefore examples where this has been achieved were also selected as case studies (see section 5.1.4.4).

Similarly, other areas which were highlighted as important include the need for long term investments (despite fast-changing developments), issues of data exchange, security and ownership. Which brings to the fore the key trends of new technologies and (acceptance of) ICT solutions, standardisation, funding (to support the process and for new services), legislation and competition. Other trends acknowledged include the diversity of economic development across Europe as well as the varying needs for traffic information in particular contexts, car ownership models, mobile platforms, freight transport, education and income.

In terms of the context of the goal, the issue of scale was seen as fundamental; this is because local and regional solutions – approaches which vary from town to town, or region to region – are being implemented rapidly, and are somewhat incompatible with a goal that aims for an interoperable common platform across Europe. A need for common understanding and cooperation across government levels and for willingness of various actors to adapt or upgrade to fulfil the goal was also emphasised. A code of conduct was suggested in the Deliverable 3.1 as a way forward. PPPs and new service providers were also highlighted. To reflect these issues, case study examples which are operating across scales and where a common understanding between actors has been achieved have been selected to reflect the diversity of activity at the current time.

In terms of the information, management, payment and ticketing systems, there is a need to examine 3 separate systems – information, management and payment and ticketing – that need to be capable of exchanging data and information and could be interoperable and seamless. Some case

studies are therefore concerned with systems that reflect on both individual components, whilst others look at combined systems in order to derive lessons on a host of approaches.

4.2 Challenges and Barriers

The identification and selection of case studies was not only informed by reports of successful practices, but also by a review of research on known obstacles and barriers for implementing them. Here these barriers and challenges are briefly revisited. These will be analysed to compare if the same barriers and challenges were found in the case studies and in the workshop outcomes or if others were identified here.

For the **Urban Mobility** goal, the diversity of actors required to make integrated decisions that would lead to successful policy implementation was seen as lacking. The **Freight** goal was seen to be hampered by the need for better coordination between EU initiatives and local and national level policy. **High Speed Rail** is challenged by trade-off issues relating to competitive and alliance-based operation models. Interoperability, capacity constraints and bottlenecks at key stations and the lack of fair comparison (in terms of both travel time and comfort) to air travel were all seen as challenges for the sector and the delivery of the goal. Finally there were a number of specific barriers identified which would prevent the **ITS** goal from being achieved. These included the lack of sharing of data, or even a data monopoly held by some large companies and preventing integration from taking place. On the other side of the scale, the difficulty to find profitable business models or investment strategies for providing travel information is also a challenge. Having access to information about the 'needs and wants' of users, the divide between the demand of city governments and the needs of end-users were highlighted as being problematic alongside a lack of coordination and cooperation between actors involved in the sector. In addition, cross-cutting challenges and barriers that need to be overcome across the goals were identified:

- The mind-set of (groups of) stakeholders
- Lack of political will
- The need for politicians, officials and scientists to work together but current general lack of coordination and integration
- The lack of goals covering broader issues in the White Paper (around land use and travel demand management, for example)
- Time constraints of distinct projects v. longer-term future
- Goals are too ambitious to lead to 'transformation'

Some of the conditions through which it could be expected that more successful policy making could emerge were also highlighted. These included developing a mixture of measures rather than a single measure. This idea of 'policy packaging' will be explored further and can be taken forward as a tool for the roadmaps. Broad, multi-level action is required to deliver the White Paper goals; this needs to understand better the complimentary and contradictory relationships that exist between subsidiarity and coordination of objectives across government levels. In addition, PPPs are perceived to offer a model through which collaboration could be successful.

A range of solutions to barriers was identified in this area of the project. These were:

- New fuels and technologies
- Political (EU, national, regional, local)
- Public and stakeholder attitudes
- Institutional conditions
- Urban and transport planning
- Market demand
- Quality
- Longer term action
- Operational and organizational

Each of these elements was subsequently considered when forming the template for the case study research and workshop activities.

5 Process and methodology

This section of the report details the elements of the works that have been undertaken in the TRANSFORuM project relating to good practice. As a guide to the processes undertaken, it may be of more interest to a specialist audience. Section 6 continues with details on the concrete outputs and outcomes from the work.

The section is chronological. It is divided into 5.1) a detailed explanation of the approach and the specific steps taken to produce the case study repository, 5.2) an account of the processes undertaken to deliver the Autumn workshops and determine the locations and (where relevant) focus of the Spring workshops and 5.3) some insight on limitations and lessons learned through this process.

5.1 Case study repository

All members of the consortium were invited to be actively involved in a dialogue to ensure that each of the case studies in the repository could be compared. A core group took this dialogue forward and a general case study framework of the important elements to consider was prepared. This was followed by a discussion with each of the Thematic Group leaders to ensure that any specific elements relating to each theme were identified. The outcome was a case study template to follow for each of the case studies. The case studies themselves varied in terms of the level of detail given in a particular area, as the specific focus of any given case study could require that more explanation was required in one area over another. Language issues or availability of relevant literature were also factors in this diversity between the 40 case studies. However as the same general criteria were followed for all case studies, it was possible to conduct more straightforward comparisons and similarities, as well as differences, could be identified. The approach taken for each step of the process is outlined in this section.

5.1.1 Case nominations

The first step in developing the case study repository was the collection of nominations for examples of successful policies, initiatives or measures that would be relevant for one of the White Paper goals under consideration in TRANSFORuM. This call for nominations was distributed internally amongst the consortium and 7 consortium members offered suggestions. It was also promoted online via the project website and a nomination form was given to all stakeholder at the Gdansk meeting – a process which yielded 24 nominations. Alongside these activities UOXF was conducting desk-based research, using existing, relevant platforms such as Eltis and Polis, where good practices are reported, as a starting point. A long list of upto 25 cases per goal was identified following this process. At this stage however, the distinct parameters for consideration of 'good' practice had not been undertaken which was the next step to narrow down or eliminate the cases that had been identified thus far. The workshops enabled a final opportunity to gain nominations and feedback on the selected cases (see section 6.1.6).

5.1.2 Internal deliberations

Initially, an internal discussion was held around what good practice considerations should be incorporated into the case studies, and how indeed good practice could be determined. Following this initial discussion, and on completion of a literature review, as summarised in section 3, an internal briefing paper was distributed amongst the wider TRANSFORuM consortium. The briefing paper was updated and used as the basis for a generic case study template (see Annex 1).

5.1.3 Briefing on good practice

The short, internal briefing suggested that the case study selection must take into consideration particular criteria to enable the identification of 'good' practices: outcomes and practices; means through which to understand the reasons for or factors of case success and failure; consideration of policy formation and implementation phases. It was decided that more tailored criteria specific to each goal will also be devised (see section 5.1.5).

As a first step it was important to delineate for each case how it reflects on or is relevant to the achievement of any given White Paper goal. Then certain questions needed to be asked to determine if it was appropriate for inclusion in the repository.

At this stage we looked only at the criteria for success, assuming that we would not pick cases based on their failure. However, once a short list of case studies had been developed for each goal, there was an opportunity to gain insight on the challenges faced by particular cases and improvements that could have been made. Initially good practice was identified as a process, which could be situated in a context.

It was determined that a base level for any given 'good' practice should be meeting or considering the following criteria:

- Clear aims and objectives
- Delivered through transparent processes
- Accountability

- Value for money/on budget
- Clear time frame/on time
- In line with other policy areas
- Clear leadership
- Participatory
- Social/environmental (as well as economic) considerations

Additional criteria were proposed following the initial briefing, these included the role of charismatic individuals, the inclusion of civil society, citizens and where relevant future users and evidence that predecessors were learned from and that the measure or practice was a part of a process, not an isolated initiative.

Because transformation was determined to mean a change or alteration, especially a radical one (Harper Collins, 2003), cases were also selected if there was a clear change (radical or otherwise) brought about by any particular case study. It was supposed that justification on the grounds of 'transformation' was likely to be an acceptable criteria for inclusion, but that it needed to be ensured that a sufficient level of information about all cases was available in order to produce a consistent set of cases for the repository. An initial list of questions was drawn up through which this and other considerations could be determined:

- Was change necessary? Why? How did it come about? Urgency? (Radical or incremental?)
- Was the policy in question the driving force behind the change that has occurred?
- What were the values, perceptions and ideas at the start of the process?
- What were the conditions that made the change possible? (e.g. competition, innovation, external factors, funding, subsidies, know how, information)
- Does the policy/strategy consider other factors, or were other factors important to policy (societal, cultural, technical, economic)?
- What was the role of civil society/individuals? Were there clear leaders driving the change
- Technical fix vs. unilateral behavior change
- Predecessors/niche: history of innovation?

It was also decided following the briefing that looking at a variety of policy and geographic scales would be useful for each goal and that looking at elements of a system as well as entire systems would generate a higher level of understanding. Replicability and transfer were noted as important elements to gain insight on as well as information on the barriers and 'failure' factors and importantly insights on how and when particular barriers can be removed or overcome.

Some important elements subsequently emerged which were also taken forward. The need to consider the diversity of contexts, democratisation, governance structures and issues such as case histories were highlighted. The frame of the goal under consideration was highlighted as important – whilst it was important to stay in the framework of the project, the group decided that cases that were contributing something in the spirit of the White Paper, whilst not necessarily directly contributing to definitive goals, should be included, so that broader insight, which may indeed be relevant, could be gained.

Sustainability, reliability and public acceptability were all added as criteria for consideration as well as politics and long term (future activities and plans). It was decided to keep the scope of 'practices and measures' broad to include technologies and innovations, policy practices and organisational factors, as well as particular alliances or partnerships if relevant nominations were identified. Private actor and associations policies should be considered, not just public policy. In terms of the private sector corporate governance, new business models and framework conditions could all be included in the scope of measures which could be considered as good practice in the spirit of the White Paper.

Once all of these elements had been consolidated, a generic case study template was devised (Annex 1) to facilitate the preparation of the case study repository.

5.1.4 Thematic Group-specific insights

Once the generic case template had been developed, it was important to ascertain any relevant Thematic Group specific parameters that would need to be taken into consideration. It was a priority at this stage to interpret what the 'spirit of the White Paper' was for each goal as well as to determine where the Autumn and Spring workshops would take place to show case 'on the ground' examples of good practice for each theme.

5.1.4.1 Urban mobility cases

Four dimensions were discussed that were important to identify cases under. These were technology and non-technology focused and passenger transport and urban logistics – it was highlighted that many cities are closer to transformation in passenger than freight transport and that the goals in city logistics are more incremental – so this should be reflected in the case study choice.

Case study examples were required covering each of these areas and a variety of geographic locations and scales was needed. Following the Avoid Shift Improve (ASI) approach, it was identified as important to consider a mix of alternative fuels and mobility measures, as well as modal shift away from road transport. Understanding the current and future links between the White Paper and Sustainable Urban Mobility Plans was as an area of interest and as such it was recommended that broader urban planning cases were also considered in the list.

Governance processes were identified as important to all cases, in terms of asking questions about political processes and combinations of measures that make transformation possible. The importance of utilising existing databases of case studies was identified as Civitas, Eltis and Polis have already undertaken a wealth of work to draw from and supplement in this area. During the call, Oslo was mentioned as a potential case study and interesting location for the Autumn workshop (see section 5.2.3.1).

5.1.4.2 Freight cases

The net was cast wide for the freight cases that could be investigated, both shipping and rail, individual companies and businesses models, technologies, particular locations (i.e. harbours/hubs), policies at different scales, processes and alliances could all be considered as potential case studies to highlight good practice in terms of the freight goal. Particular corridor projects and Motorways of the

Sea were suggested as case study nominations, as were particular complementary technologies for enabling mode shift. But it was seen as important to have a diversity of cases.

Similiarities with the HSR sector were identified due to the link with rail and the need for both goals to be cross-border. Here Switzerland was put forward as a potential case study and workshop location (see section 5.2.3.2). In this discussion it was proposed to have case studies in the roadmaps.

5.1.4.3 HSR cases

As was highlighted in the trends work, it was seen as important to reflect more broadly on examples where demand is high for HSR and not just focus on how the longest stretches of infrastructure have been developed to inform the successful delivery of the White Paper goal. As such examples of successful PPPs, of transnational and cross-border HSR, of routes competing well with air travel, and of monopoly operators and those operating in competition were all important to derive lessons from.

It was also suggested that infrastructure investment decisions should also be reflected upon in the cases to demonstrate transparency in these processes and to uncover processes of intervention, subsidy and use of more inclusive tools than just cost benefit analysis. In this discussion, the City Ticket was flagged for consideration, as was the need for analysing particular lines, such as Lyon-Paris. The cultural diversity between actors in different regions of the EU and geography (long distance routes and corridor choice) that must be considered to understand the complexity of delivering the White Paper goal was highlighted.

5.1.4.4 ITS cases

Cases that considered modal integration and open data were suggested for inclusion in the ITS case studies. It was identified as important to reflect on the shorter term of the goal compared to the others in the White Paper. EU funding schemes were seen as a good practice to reflect on in terms of promoting regional integration as well as demonstrator projects. ITS in the Greater London area was identified as current best practice, but it was important to also look at new projects which will go beyond what this area has already achieved, so considering state of the art in 2013 was seen as important. Looking at social media and feedback systems – such as those deployed in the Co-Cities project was identified as an interesting inclusion in the repository.

Legal issues, ownership and common standards and standardisation, funding as well as privacy and data issues would all need to be reflected upon in the chosen cases. As it was determined that it is not possible to have one European system, multi-modal examples operating at different scales were seen as interesting.

5.1.5 Case selection

When the parameters for each Thematic Group had been determined, UOXF went through the long list of case nominations and undertook preliminary research on all cases to be able to apply the criteria developed in the briefing to ensure these were met. Subsequently UOXF took steps to ensure

that the diversity of focus as outlined in the section above for each case was reflected in the list of 10 cases for each goal

It was decided that it would be advantageous to gain expert stakeholder insight on the selected short list of case studies and as such the preparation of the repository was delayed to enable this consultation to take place at the Autumn workshops. More information about this process is outlined in section 6.1.6. A revised full list of all cases studies, determined following the workshops, can be found in Annex 2.

5.1.6 Case completion

UOXF allocated some of the case studies to TOI, UG and CDV according to the contribution each organisation had in the project description. UG and CDV were primarily researching New Member State cases and also those areas in which they had relevant expertise. Each consortium member was given a copy of the case study template and guidance that case studies should be between 1.5-3 pages long. UOXF conducted 8 semi-structured interviews with relevant stakeholders, a list of interviewees can be seen in Annex 3. Following the completion of the case study drafts, UOXF undertook a major editing process to harmonise the case studies and bring them together into the repository.

5.2 Good practice workshops

As per the description of work, 4 theme-specific workshops were organised in the Autumn of 2013 to discuss with expert stakeholders key issues surrounding good practice in the context of the White Paper goals. Workshop locations were selected as being able to demonstrate sites of international 'good practice' and as a part of each workshop a site visit was organised to enable the workshop participants to see 'on the ground' initiatives at work. Chatham House rules applied to each of the workshop discussions to ensure that insights and perspectives offered during the proceedings would not be attributed to particular individuals.

5.2.1 Participant identification

Stakeholder selection for each of the workshop was aimed at having a diverse mix of expert participants from across Europe. A mix of sectors, geographical locations and gender was striven for. Annex 4 provides full details on the participants for each Autumn workshop.

5.2.2 Workshop format

A briefing paper was prepared by UOXF and KIT with input from each of the Thematic Group leaders which were circulated to inform and prepare participants ahead of each workshop. The briefings outlined each of the sessions of the workshop and asked participants to consider the focus of each of the areas under discussion in advance. These sessions are outlined below.

In each of the four thematic Autumn workshops, a session was dedicated to gaining insight on examples of initiatives where good practice had been witnessed, a discussion ensued in which the

group was able to identify similarities between the cases. These discussions are reflected upon in section 6.1.

In this workshop exercise, participants were asked to identify success factors relating to the examples they offered – why did the initiative succeed. Common success factors were gathered and discussed by the group. Again similarities across the groups were identified (see section 6.1).

Autumn workshop participants were also asked to identify unsuccessful initiatives and the factors relating to the failure or unplanned outcome and whether/how the barriers relating to the failure were being removed or overcome. These exercises were not completed in Lyon due to a lack of time in the schedule which resulted from time being dedicated to hearing international insights on good practice. Section 5.3.3 reflects on the impact of this.

In addition, participants were also asked in each of the workshops what learning and sharing currently takes place with regard to policy ideas, as well as what could take place. This helps to inform what knowledge about where and how the good practice information acquired could be scaled up and applied across different European contexts.

UOXF, KIT and the respective Thematic Group leaders shared moderation and rapporteur roles for each of the workshops, a process that was clearly structured in advance of each workshop. Following each workshop, a series of minutes were produced, which were circulated to the participants for comments and then made publically available via the project website.

5.2.2.1 Link to roadmapping

UOXF also worked with KIT to ensure that the good practice insights were useful and relevant to the initiation of the roadmapping process, which formed the last session of each of the Autumn workshops.

5.2.3 Workshop locations and site visits

UOXF suggested an initial location to each of the Thematic Group leaders and then this team worked together, along with RC, VTI and KIT to arrange the workshops in each location. It was important not only to select particularly interesting and 'good' practice examples, but also to ensure some cultural and geographical diversity to acknowledge that context plays a role in the success or failure of any given activity. Once a location had been selected, local relevant practitioners were invited to share their experiences with the group to set the scene. Details of presenters can be found in Annex 6.

A similar approach was used to select the location for the Spring workshops to enable similar site visits to take place. All locations are representative in some way of particular case studies included in the repository.

5.2.3.1 Urban mobility workshops and site visits

Oslo was time and again mentioned during the case study nomination process as a leading example of electric vehicle roll-out. Although Norway is not an EU Member State, it is a member of the European Economic Area and is therefore obliged to transpose all EU directives and regulations

related to this area. Oslo has a mechanism for procurement of vehicles compliant with EU regulations and could therefore offer insight into efforts that are congruent in the EU context. Thus the Autumn workshop which had a technology theme, specifically around electric vehicles, took place in Oslo.

Participants were shown around Oslo by a city council representative and the EV infrastructure that has been developed was explained by the guide who was able to offer insight into the development of the infrastructure and the enabling national and local initiatives which have been responsible for promoting uptake.

Figure 1 Dedicated EV parking, Oslo

The Spring workshop's location was Copenhagen. It had been selected as a large urban area very able to showcase local activities and efforts to move away from motorised transportation towards alternatives. It also happens to be the European Environmental Capital in 2014. The city is also a 'Master' level participant in the CycleLogistics project.

5.2.3.2 Freight workshops and site visits

With the urban case setting precedent for locating in a non-EU country, the freight Thematic Group was able to follow the guidance of several recommendations that Switzerland's freight transport policy offered an excellent example of an approach that would deliver against the White Paper goal if similar approaches were implemented by EU Member States. Therefore Basel was selected as a location because it is strategically important (being both a rail and inland waterway hub) and because it is the home of InnovaTrain AG, which was also selected as a case study.

Figure 2 ContainerMover, InnovaTrain AG, Oensingen

Indeed, the site visit for the Basel workshop was to InnovaTrain's depot, where the stakeholders had the opportunity to see the company's horizontal transhipment technology in action and were guided around the facility by an InnovaTrain representative.

The Spring workshop's location was Duisburg in Germany. As will be explained below in section 6.1.6, Duisport was identified as an exemplar during the Autumn workshop and subsequently added to the list of case studies. This workshop dealt with infrastructural and business insights and as with all others, focused mainly on presenting the TRANSFORuM Roadmaps 2.0.

Because the focus in the Autumn workshop had a larger emphasis on rail, Duisport as the largest inland port in the world, and with significant investment underway to build inland waterway capacity and rail connectivity with the hub, was selected as an interesting multi-modal site for stakeholders to visit.

5.2.3.3 HSR workshops and site visits

For the Autumn workshop, Lyon was selected as the site for several reasons. With the LGV Sud-Est being a case study and with the HSR Thematic Group being led from the city, it seemed like a natural choice. Moreover, the SNCF maintenance depot is located in the city and offered an excellent

opportunity to get up close with the trains and the infrastructure and learn from a guided tour around the centre about how the operations of such a large network is managed.

As the focus of the workshop was on good practice, the Thematic Group leader took the approach of gaining true international insight on the sector and invited experts from Japan and China to share their experiences with the convened stakeholders. This approach certainly contributed valuable insight to the discussion, but also caused the slight divergence from the workshop format that was outlined in section 5.2.2. The implications of this are discussed in more detail in section 5.3.3.

Figure 3 SNCF maintenance depot, Lyon

A key issue that was prominent in the discussions was competition and therefore Italy was suggested as the location of the Spring workshop, due to the competitive market that exists in the country.

The specific site was pinned to Rome and the stakeholders were invited to visit a site where upgrade works are currently taking place, as well as to Rome Terminus station to explore the Rome/Naples control panel to see how flow management is handled on a competitive line.

5.2.3.4 ITS workshops and site visits

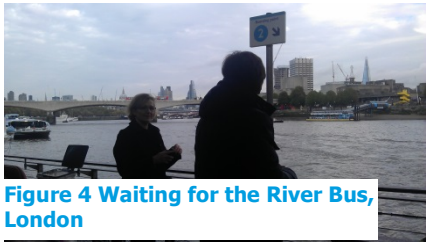
Figure 4 Waiting for the River Bus, London

As Greater London's Oyster card and the Co-Cities project were identified as case studies for the ITS Thematic Group, the UK was selected as the location of the Autumn workshop, this was supported by the presence of UOXF being a short distance away. Reading Borough Council is a partner in the Co-Cities project, so the workshop was held in the town. Because of Reading's proximity to London, the site visit was a multi-modal (tube, riverboat, cable car) trip across the city using the Oyster card. Representatives from both Reading and Transport for London contributed to the discussions.

Tallinn was selected for the Spring workshop as a site which has integrated ticketing and information for its public transport – utilising ID cards as a means of transport ticketing. But it also offers free public transport to residents of the city. As a new Member State, it offered a significant opportunity to gain insight in this context too.

5.3 Limitations and lessons learned

Some elements of the approach were not optimal or ideal and these issues have become apparent since the outset of the activities. This section offers a chance to reflect on the process and discuss some of the lessons that have been learned during the process that can be taken forward in the remainder of the project.

5.3.1 Delineation and interpretation of the White Paper goals

As has been highlighted in the sections above, discussions of the White Paper goals in the activities prior this part of the project have called into question the scope or focus of the particular goals. For example, quality of service and demand were highlighted as important in the context of the HSR goal, though not explicit in it. Similarly, whilst the ITS goal calls for a system to achieve seamless integration across the EU, demonstrable progress is being made at the local level and so a number of case studies focused on this.

These earlier discussions subsequently caused some issues for the selection of the case studies and for the focus of the good practice workshops. The processes outlined in sections 5.1 and 5.2 respectively went someway to ensuring that areas for consideration were agreed upon in collaboration between consortium members and discussed with stakeholders to validate these decisions. Nonetheless, it is worth emphasising that the case studies and the workshop discussions respectively are relevant to the 'spirit of the White Paper' and a broader perspective was taken to reflect on some of the key issues relating to each of the sectors, and not just a literal understanding of the explicit text of each of the goals.

5.3.2 Delays

The unavoidable delay of the earlier work packages in TRANSFORuM resulted in difficulties integrating the ideas coming from this work into the early work around good practice. Efforts have been made to ensure these elements have been consulted subsequently, but the potential to integrate these considerations fully was unfortunately missed.

Similarly, due to the decision that was taken to gain stakeholder insight on the selected case studies, the repository delivery was delayed, subsequently delaying the preparation of this report. Whilst this has no doubt impacted the roadmapping process, efforts are being taken at the current time to ensure that the good practice insights will be fully integrated into the outputs before the due date for these deliverables to ensure that further delays are minimised.

5.3.3 Diversity of HSR workshop proceedings

As noted in section 5.2.3.3 above, the Lyon workshop format was different to the rest of the Thematic Group workshops in that the session on success and failure factors did not follow the same format as in the other workshops. Information was derived on success and failure through discussion, but the mechanism of having each stakeholder think specifically about successful and unsuccessful examples and share them with the group and then identifying common factors for both did not happen. Inevitably, as a result, the insight derived is less directly comparable with the other Thematic Groups in this respect.

5.3.4 Role of context

Although it was identified as an important consideration when the case study template was being devised, as will be highlighted in section 6, limited insight was gained and therefore limited analysis on this element was actually possible. Whilst it was difficult to ascertain whether particular

contexts can be seen as a determinant for success, which has important implications for the transferability of ideas and actual transfer, context was nonetheless seen as important and as such it was included in the analysis.

5.3.5 Selection of cases

Whilst all practical steps were taken to ensure that the case studies selected for the repository were reflective of true good practice, there is of course a chance that the most visible examples are those for which there is the most information and that perhaps other, better examples exist, but are not as well promoted. This is one of the reasons why internal discussion and stakeholder consultation was undertaken, to ensure that the cases were befitting of good practice, as defined in the project.

Although representatives of shortlisted cases would undoubtedly advocate their own example over and above others, wherever possible steps were taken to ensure that the process of case study selection was transparent and considerate of the criteria devised. The diversity of information available between cases was also an issue, which is discussed further in section 5.3.8.

5.3.6 Language and location trade-offs

The need for case studies to be focused on diverse elements of the White Paper goals, as outlined in section 5.1.4 had to be achieved alongside a range of scales and geographic locations across Europe. Wherever possible this was accomplished, but of course in order to gain insights from new Member States and from as many regions in the Union as possible, there is a chance that abiding by this approach has meant that certain examples, which may be better or comparable to the chosen cases, were overlooked to deliver this diversity. A list of case study locations can be found in Annex 5.

Whilst this is true, where truly exemplary cases are highlighted they have been chosen in spite of the fact that this may have resulted in particular areas or cases being more heavily considered than others. For example, there are 2 cases in the repository concerning Deutsche Bahn, one in the HSR and one in the ITS Thematic Group. This is perhaps most prevalent in the freight case studies, where there are 2 Swiss cases, 2 German and 3 cases concerning Sweden. Perhaps this can be considered a shortcoming, but whilst the geographic diversity is limited, the diversity of case study subjects is perhaps more important.

Language issues were perhaps also a determinant of the cases selected, where there was limited information available in languages familiar to consortium members, it could be that good practices have been missed. Similarly, those consortium members with the language skills required did not have knowledge of the other goals and themes. To minimise the extent to which this was an issue, as was highlighted in section 5.1.6, case study production was allocated to consortium members based on expertise and interest in particular subjects, but also where language skills could be utilised.

5.3.7 Interests and conflicts

There are certain examples of close relationships between consortium members and case study subjects. These relationships were flagged at the outset in order to remove any bias from the

selection process. Whilst these examples may be known about because of the involvement of consortium members in some way, it is important to note here that there is no conflict of interest in including these cases and they have been selected on their own merit.

Examples include UG's involvement in the TROLLEY project, KTH's role on the development and analysis of the CCT idea and technology since its inception and also in the analysis of the Swedish HSR investment scenarios. Also CDV's membership to the KASSETTS project consortium and AustriaTech's involvement in the Co-Cities project.

5.3.8 Use of references

Whilst efforts were taken to ensure that sufficient research was undertaken for each of the case studies and that relevant information was consulted for all, the resulting repository now contains case studies which are very diverse in terms of the numbers and types of references that have been consulted. As was highlighted in section 5.3.6, language was a contributing factor for some of these differences, but generally, because of the diversity of subject matter as well as the different time spans for each of the cases, there was inevitably more information on some cases than on others.

All of the cases with the exception of the Rail Europe case consulted at least 3 different resources and wherever possible independent sources were used in combination with information direct from the case study subject organisation, again in order to limit the bias of information presented.

6 Findings

This section of the report will first discuss the outcomes of the Autumn workshops, before offering some analysis of what lessons on good practice can be derived from the case studies. Finally the section will draw some overall insight into what the two elements offer collectively about good practice in the context of the White Paper.

6.1 Workshop findings

Whilst a lot of useful information that relates to the wider elements of the White Paper goals was derived from the workshops, this section is interested in the 3 core discussion points that were focused on during each of the Autumn workshops.

These are:

- success and failure factors
- current sharing practices
- the role of the EU

Each of the workshops is taken in turn and the major findings are reported before some collective analysis across the workshops is offered. This information does not cover presentations that were

made by the local experts in the workshop locations, or detail the discussion that was had regarded the case study selection in each workshop – this information is however available in each of the workshop minutes, which have been published on the project website.

6.1.1 Urban mobility workshop: Oslo

6.1.1.1 Success and failure factors

All participants were asked to think of examples of one successful and one unsuccessful initiative in terms of what the factors were for either success or failure. Participants were also asked to state their role in the example, if any. After a discussion, some common success and failure factors were identified and the group discussed the relevance of these identified factors.

The lists of common (i.e. featured in more than one example) success and failure factors is outlined below, the reason to focus on common elements is to try and determine if there are some areas which can be considered as general conditions for good practice or clear barriers to action. A list of the 'non-common' factors highlighted can be found in Annex 7.

In the urban case studies it could be seen that packages of measures that had clear co-benefits and focused on delivering more than one objective were important. Knowledge utilisation was the second most commonly cited success factor while technology-related issues were the most referenced failure factors.

COMMON SUCCESS FACTORS

- Combination/package of measures
- Market success/Viability
- Utilize information/training/knowledge
- More than one objective
- Collaboration/'Ecosystem' approach
- Clear business case
- Expertise/resource mobilisation
- Political leadership (Not always only +)
- Innovative approach/experimentation/pilots
- Fun / Prestige
- Learning from past failures

COMMON FAILURE FACTORS

- Technology failures: choice, availability, neutrality, competition between
- Financing/price/market confidence
- Treating symptoms rather than causes (e.g. EVs do not solve congestion)
- Inflated expectation of results/unrealistic goals
- Lack of resourcing/infrastructure
- Timing

As can be seen here, there are some success elements mentioned in the inverse as failure factors if they are missing – such as the existence of a clear business case on the one hand (success) and unrealistic goals and expectations (i.e. absence of a clear business case) on the other hand (failure). Similarly resource mobilization and a lack of resources are highlighted respectively in each column. The extent to which these are factors in the other Thematic Groups will be discussed in due course.

6.1.1.2 Policy learning and sharing

Participants were asked to reflect on how they currently share information on good practices in their day-to-day role. Some 25 distinct methods were identified including **established networks** across different government levels and issue-specific networks, **websites** and **social media**, **conferences, existing databases** and **training**. They were then asked to think about any other ideas not covered in the list which could be utilised to share good practice in the future. Among the 18 ideas which were discussed, a need for a **standard for knowledge sharing** was suggested in order to improve the consistency between the information that is circulated. **More informal means of communication** were advocated based on the idea that people are more likely to share knowledge if they trust the source of the information and trust comes from relationship building. In addition, many participants expressed the need to identify and **share 'bad practice'** in order that lessons could be learned from failure instead of negative experiences being forgotten.

The final element of this session was to identify barriers to sharing. Thirty suggestions were offered and discussed by the group. These included issues of **privacy, secrecy** and **competition** – especially from the technology perspective; companies particularly may not be able to share ideas and the protection of intellectual property rights prevents such sharing. **Time to share** was seen as barrier, as were questions of **language** and a **lack of understanding of cultural contexts**, which often prevents lower profile or smaller cases from being recognised. A **lack of resources** was also seen as a factor for these areas being underserved. Understanding what to share and who the audience is were seen as factors which are not often thought about and getting the balance between too much and enough information right was also identified.

6.1.1.3 Role of the EU and other levels scaling up to 2050

The final session focused on good practice, participants were asked to reflect on the roles played by the different levels of government in scaling up success in order to meet the White Paper goals for urban transport. The following roles and responsibilities were identified by the group for each level.

It is clear that strategy setting is a role to be played by the EU, but these strategies need to reflect in some way the local contexts of the areas where implementation and delivery will occur. The national level needs to provide resources and capacity to enable the local level to take action.

Together the group decided that prioritising the imperative to deliver CO_2-free urban logistics and clean urban passenger transport was important to consider at all levels. Moreover, sharing that needs to take place between levels should include information about political and governance arrangements, not just technical information. Consideration of such arrangements was factored into the case study template to enable insight on this area to be gathered.

EUROPEAN	NATIONAL	LOCAL/CITY
Strategy/guidance for Member States and sales pitch/vision for objectives	Finance for pilot projects	Sharing local plans/local contexts
Provide platforms to build on	Capacity building at local level	Bottom-up sharing of local expertise
Require national statistic reporting across ALL modes	Sharing national strategies	Follow through on commitments

Standard definition for sharing/harmonising data	Strategies which reflect European landscape but also national context	Strategies which reflect European and national landscape but also local context
Allocate sufficient resources to projects/initiatives		
Learn from existing networks		
Reflect on local knowledge and situations before setting targets/objectives		

Table 1 Roles for Different Government Levels, Urban Workshop

6.1.2 Freight workshop: Basel

6.1.2.1 Success and failure factors

All participants were asked to think of examples of a successful initiative and of an unsuccessful initiative in terms of what the factors were for either success or failure. Participants were also asked to state what their role in the project was, if any. After a group discussion, some common factors for success and failure were identified and the group went on to discuss the relevance of these identified factors.

The lists of common (i.e. featured in more than one example) success and failure factors are outlined below, the reason to focus on common elements is to try and determine if there are some areas which can be considered as general conditions for good practice or clear barriers to action. A list of the 'non-common' factors highlighted can be found in Annex 7.

COMMON SUCCESS FACTORS

- Cooperation/coordination of planning/collaboration/communication between stakeholders; shared risk
- Private/sound investment in infrastructure
- Strong objectives/simple goal
- Investing in future/long term objectives
- Integrated approach/standard techniques
- Geographical proximity (to business, infrastructure and demand); understanding local context
- Commitment

COMMON FAILURE FACTORS

- No comprehensive planning for funding/bad business model
- Lack of stakeholder coordination
- Lack of leadership/initiative
- Financing: Poor cost-benefit analysis/under-quoting/misspending funds

Again, it is possible to see here that some success elements working well are cited as failure factors where they are missing. Here collaboration and communication between stakeholders is the inverse of a lack of stakeholder coordination and sound investment is countered with a lack of resourcing. The success factor commitment could perhaps be comparable with the success factor political leadership that was mentioned in the urban case. It is possible to see some common areas emerging across the thematic areas and more comparison across them all will follow in section 6.1.5.

6.1.2.2 Policy learning and sharing

Participants were asked to reflect on how they currently share information on good practices in their day-to-day role. Some 22 distinct methods were identified including membership networks and business conferences, facilitation workshops and face-to-face meetings. They were then asked to think about any other ideas not covered in the list which could be utilised to share good practice in the future. Social media was identified, although it was suggested that it is still early days for this tool in the freight sector. A dedicated website for sharing information on routes and timetables was suggested as a potentially useful tool for the sector.

The final element of this session was to identify barriers to sharing information. Fifteen suggestions were offered and discussed by the group. These included issues such as the influence of and conflicting messages coming from the lobbies of other sectors (passenger transport and road in particular), the fragmentation of the transport markets and the difficulty engaging with the shipping sector. It was suggested that this last barrier was possible to overcome with concrete and specifically targeted information and engagement activities, although such efforts are likely to be time consuming. The trade-off between daily business and influencing policy makers was highlighted, as were the challenges posed by protecting intellectual property and trade secrets whilst still working in collaboration.

6.1.2.3 Role of the EU and other levels

Participants were additionally asked to reflect on some specific opportunities that could be taken and challenges that need to be overcome in relation to scalability and transferability, in order to achieve the 2030 and 2050 White Paper targets. Because the sector is perhaps more reliant on industrial/private sector actors to deliver the goal than some of the other Thematic Groups, here the roles of levels of government were not emphasised as much. Instead, the challenges faced by the sector, as it currently operates and its future requirements were identified and discussed by the group. The discussion is reflected below.

Scaling the success of the Swiss policy into and across EU Member States was identified as a good approach. But the context in Switzerland – in that it is smaller scale, less dependent on the EU and the policy has stability as the context will not change, were seen as factors as to why this is not completely viable at the current time.

Awareness-raising at the European level takes a long time, and due to the emphasis on freight corridors, we do not immediately see a large degree of success. The initiatives of the Marco Polo project were viewed as short-term actions with no long term grounding. As such, it was seen that Europe does not currently have the right measures to implement the 2030/2050 targets. Indeed it was highlighted that the EU could provide a **long-term perspective, financial support and concrete but flexible legislation**. Commitment from the EU to provide these conditions would result in a stable framework which would **level the playing field (between road and rail)** and develop the sustainable business plans necessary to deliver against the goals. **Standardisation of the sector across Europe** was also perceived as necessary: further standardisation - of **signalling**

systems, bridges and heights of tunnels and of **processes** (such as the certification of the rolling stock) are all required to enable larger scale change.

Community-led pressure on politicians was suggested as a way in which changes may be encouraged, as were more **environmental education** to encourage more supportive and active attitudes. Politicians were seen to be incoherent because of lobbies, but the issue of business pressure was mentioned – politicians cannot and shouldn't put pressure on multinational companies, they need to be able to operate in a consistent international setting. The onus is on companies to come up with solutions, but they need to do so in a transparent manner. **Knowledge should be shared** – therefore transferability was identified as an important issue.

The issue of scaling up was addressed. A **step-by-step approach** was favoured by the participants. It was noted that from the perspective of year-on-year progress towards the goals' objectives, the sector is already off course. Whilst **significant technological and technical advances** may come to fruition, this cannot be relied upon. So clearer understanding of where reductions are going to come from is needed. Whilst this is true, as a sector, freight transport could be transformed if attention was more focused on **technological and information-based developments** than on steel and concrete – **being creative** was advocated by the participants.

The administrative and policy power at the sub-national and regional level also needs to be capitalised on, but these administrations are not involved (yet) –**understanding is required about regions in national contexts** with regard to the 300km limit, as such a distance has different implications for large and small states and ultimately for their cities and regions and as such there has been a disparate level of attention paid to the White Paper goal at the sub-national level which needs to be better understood. For example, how does the **infrastructure development and location of facilities** fit into the regional context and vice versa?

Policy and practice need to be seen together, developments made by industry need to consider policy parameters and policy similarly needs to take account of progress made by business. There is a need for more connection between elements that facilitate the freight sector and the long distance movement of goods, which the goal focuses on. These include short distance trips as well as the ports and cities that connect freight hubs.

6.1.3 HSR workshop: Lyon

As was highlighted in section 5.3.3, the proceedings of the Lyon workshop did not follow the same format as the other workshops and therefore, it is not as straightforward to delineate the insight derived from the stakeholders in terms of the sessions that were held elsewhere. As such, this section reports on the discussions that took place at the workshop around significant themes that emerged and from this account it is possible to highlight particular areas that are relevant for analysis.

6.1.3.1 Cooperation v. competition

It was suggested that as a first step to get many HSR projects operational, cooperation between companies has been important (implying that it might be appropriate to shift the balance

from cooperation to competition as a certain technology or service matures). But it was also highlighted that such cooperation is time sensitive and that there is a fine line between cooperation and competition – when it makes sense and when it is harmful – in terms of the profitability of particular companies and acceptance of the level of travel fares, which can be expensive when there is lack of competition.

In Italy, there continues to be a trade-off between competition and cooperation on the network, even as on-track competition has appeared on the HSR network. It was suggested that even privately-funded infrastructure should be developed step-by-step, even in Japan, which is considered as a successful HSR model. Japan is the closest business model to private risk prevention know-how. The step-by-step development strategy is driven by the financing capabilities as opposed to purely public financing which deals with railway investment as a variable to the benefit of sovereign budget lines.

Competition within the road sector was also flagged as a major issue in that car manufacturers and road freight and passenger operators aren't required to invest in their infrastructure so why should certain rail operators have to? This led to a discussion about the arrangements and financing of large projects.

6.1.3.2 PPPs/financing

PPP was flagged as a means through which to deliver more infrastructure and HSR routes. It was noted that it is not possible to finance HSR without PPP. The timeframes of investment were discussed – where there are limited financial resources for public or privately funded projects, there is a need to understand the lifespan of a project or piece of infrastructure (<30 years – >70 years) – where terms are longer, perhaps PPP is more favourable? It was also flagged that there have been high profile failures of PPPs and maybe there are lessons to learn from these failures and successes (Taiwan, Eurotunnel) to make PPPs more robust in the future. This discussion led to an important theme identified throughout the workshop – risk.

6.1.3.3 Risk

It was mentioned that poor risk management is about not knowing how to value a system and a poor reliability of public financial commitments. One way of sharing responsibility is if the private sector takes responsibility for risk management, while the public sector takes responsibility for sovereign risk to ensure that projects are not implemented with an uncontrolled risk level, as this would inevitably lead to long-term financial unsustainability. The state should only burden the risk as a last resort and should avoid each and every risk occurring within private know-how to prevent, control and protect the investment against risks.

6.1.3.4 Decision making

As well as the financing process, the decision-making process was discussed. Long and short term considerations need to be taken into account – in Poland HSR investment was decided against because other areas of infrastructure were deemed more important and the policy developments have been supportive of this. Calculated passenger traffic did not warrant investment.

In Sweden, the process of deciding to introduce an HSR system was seen as transparent and considering a number of factors, including the environmental effect and the 'social worthiness' of any planned development. This was seen by participants as an interesting example in decision-making. This discussion led to the inclusion of this process as a case study in the repository. **Considering more than one factor in deciding to invest** was seen as crucial – the conversation and decision making processes should not revolve solely around infrastructure. This is in line with the urban case where multiple objectives and innovative approaches were identified as success factors.

6.1.3.5 Capacity v. speed

It was suggested that if HSR is financed by public funds, then capacity should be the biggest reason to invest in HSR, not time/speed. Indeed, agreement was reached that the White Paper goal may be too narrow in that tripling track-length across Europe will not reflect demand, regional contexts or existing infrastructures. It was emphasized that there need to be good reasons to invest. HSR should be seen from the perspective of providing excellent service and integration with the overall transport system, especially along the HSR corridors.

Ridership and **market shares** are key considerations. However, due to the length of the implementation duration of a public investment, it was suggested that lack of data on these areas was a problem and that ex-post analysis of particular routes in operation would be useful. The group suggested that understanding where issues with the conventional national and regional rail systems could be addressed, or tracks upgraded for example, to offer a more effective network system – putting the focus on the most needed capacity improvements – may be better than investing in new dedicated high speed lines just to meet the goal.

The strategy in **Japanese and Chinese development of HSR**, **station design** and **location** and **rebalancing rail and road** were also identified as important considerations. The station was seen as an important link between all elements of the transport network. In order to deliver more interoperability and increased capacity, one participant suggested that more competitive pressure needs to be exerted on the companies.

6.1.3.6 Route choice

Finally, it was suggested that not all attention should be focused on A-to-B connections but also on the surrounding node. Transport is important to get people into these areas – **nodes are a good source of financing**. Big private Japanese companies have not received subsidies to operate railways, they get their revenues for developing residential areas, stores etc. **Local authorities** play a key role, sometimes in funding infrastructures and stations like in Japan. This increases the overall attractiveness of HSR.

To conclude, it was determined that there is room for **many HSR models**, representing different HSR "cultures". Germany is considering HSR as a way to improve **land use and spatial balance** nationally. In France, integral HSR is aiming **at reducing travel time** without stopping through highest **speed**. Japan and Taiwan use more stations and operate different types of services.

6.1.3.7 Policy learning and sharing

Participants were asked to reflect on how they currently share information on good practices in their day-to-day role. It was seen as a permanent trial and error process – learning often occurs through doing in the field of HSR. Conferences, networks and workshops were all identified amongst the sharing mechanisms discussed. Transparent working was advocated – publishing information was seen as key.

Anonymizing or black-boxing sensitive data was suggested as a means to address the lack of sharing due to competition, as was the role of intermediaries. Looking at good examples from different countries and using 'management by wandering around' (MBWA) principles to gain understanding were both advocated – as was sharing skepticism and failure. An internet platform for sharing good policy documents was suggested as a potential tool for sharing.

The barriers identified included the lack of data available to the rail sector from the road and aviation sectors which would help to make more informed decisions – normalised data would help here. The adequate tooling to share data and the lack of visibility of companies due to competition were also highlighted. In the competition against road transport, more consideration should be given to industries as focal points of cross-fertilization, because although different companies are in competition with each other, there are sufficient similarities across the industry that could be used as a basis through which to build the collective strength and influence of the sector. It was suggested that local authorities can also bring money to the rail system and urban mobility (local and regional) also needs to feature in discussions of HSR.

6.1.3.8 Priority issues

Some priority issues were identified that would need to be addressed in order to achieve the White Paper goals. These included:

- a lack of trust and confidence in the sector
- people sharing knowledge
- taking strategic risk
- EU support for the railways
- liberalising the market and opening to/improve competition
- money for the rail system – shareholder investments, not taxpayer investments
- bias of perception towards HSR
- quality and price of service

Financing and knowledge sharing are again featured here as key issues, as they have been in the other Thematic Group workshops.

6.1.4 ITS workshop: Reading

6.1.4.1 Success and failure factors

The workshop participants were asked to think about one successful policy/idea and an example of a less successful policy or idea, and consider why these particular initiatives were successful/unsuccessful. After a group discussion, some common factors for success and failure were identified and the group went on to discuss the relevance of these identified factors.

The lists of common (i.e. featured in more than one example) success and failure factors are outlined below, the reason to focus on common elements is to try and determine if there are some areas which can be considered as general conditions for good practice or clear barriers to action. A list of the 'non-common' factors highlighted can be found in Annex 7.

COMMON SUCCESS FACTORS

- Listening to users/obtaining and providing reliable information
- PPP /politics and business together
- Improvement of situation/attractive solution
- Cooperation / getting right stakeholders together
- Expertise / insight utilised
- Leadership
- Standard interfaces/basis to build on
- Many small steps (iterative process)

COMMON FAILURE FACTORS

- Lack of data/information
- Wrong participants and stakeholders/bad partners
- No clear objectives to start/outcomes at end
- Poor understanding of actual user needs
- Poor integration:
    - o Non-universal application
    - o Lack of availability
    - o Different business models

As with the preceding workshops, it is possible to see here that some success elements working well are cited as failure factors where they are missing. Here they are related to sufficient vs. a lack of information, the right or wrong stakeholder participation respectively and the use of standard interfaces compared with different business models. It is possible to see some common areas between the case studies in this context too, as will be discussed in section 6.1.5.

6.1.4.2 Policy learning and sharing

Participants were asked to reflect on how they currently share information on good practices in their day-to-day role. Some 22 distinct methods were identified including established networks across different government levels and conferences on specific subjects, working groups and personal meetings. They were then asked to think about any other ideas not covered in the list which could be utilised to share good practice in the future. Among the 13 ideas which were discussed, getting cities and companies together to share knowledge was seen as a positive way to yield results, as was exploring interoperability – developing business models and frameworks that would yield more

synergies between companies. It was suggested that a single initiative was possible, if ownership of particular areas and issues was promoted.

The final element of this session was to identify barriers to sharing. Twenty-three suggestions were offered by the group and discussed. These included issues of closed data, lack of transparency and competition. In certain areas, industry has a monopoly and therefore a reticence to share, which is an insurmountable barrier in these contexts. The amount of data was also flagged as a barrier – the idea that too much information is available and it is difficult to know what is relevant/worth sharing. Political decisions, language, lack of commitment to sharing and time constraints were all identified.

6.1.4.3 Role of the EU and other levels

Finally, participants were asked to reflect on the roles played by the different levels of government in promoting good practice and scaling up success to the level required to meet the White Paper goals. These discussions were framed around the concepts of scalability and transferability and the following ideas and questions were identified by the group.

6.1.4.3.1 Scalability

- Step-by-step process: opening up of data towards full integration/(inter)operability
- Start with what is possible and work on goal in mean time
- Transparency and open information
- We are not making the best use of work that's already been done: more dissemination across levels and sectors to share ideas
- Business-driven processes?

> EUROPEAN issues

- EU subsidiarity: what is appropriate?
- "Light legislation" – guidance not prescription: not strict rules
- EU cautious rather than taking lead. Does this need to change?
- Supporting communication is not enough – should have the role of moderation?

> NATIONAL issues

- Member States: each country has different policy – difficult to identify roles consistently
- Article 47: White paper => standardisation

6.1.4.3.2 Transferability

As seen in the urban case, a strategy setting role was identified for the EU and a resource provision role allocated to the national level. A list of keywords was drawn up to highlight the primary themes that have emerged through the discussion:

- Trust – payments
- Privacy
- Competition
- Data (ownership)
- Security

EUROPEAN	NATIONAL	LOCAL/CITY
Fund projects that Member States/cities want (to do anyway) Horizon 2020 (2014)	National initiatives and funding resources	ITS should not be isolated but integral to all other areas – application to all other areas – application of technology – common knowledge base
Active role through legislation ("light legislation") (ITS directive) standards	Provide data to private companies to make use of this => especially data which contains no personal details	
Standard setting (policies can differ) at local levels: would it slow progress/developments? No reason not to/inaction	Privacy legislation resides with Member States	
WISETRIP project		
What role would EU like to play? Facilitator/moderator?		

Table 2 Roles for Different Government Levels, ITS Workshop

6.1.5 Similarities across workshop findings

Taking all of the workshops together, it is possible to see that very specific and particular barriers affect the Thematic Groups in different ways. However, there are also a number of common factors, both in terms of success and failure, as well as common sharing practices and roles for the EU to play across the goals laid out in the White Paper and across the sectors that these goals relate to. This section briefly synthesizes these commonalities.

6.1.5.1 Common success factors

There are 6 common elements that have been identified as contributing to the success of initiatives across the Thematic Groups. Whilst there may have been different phrasing around the examples given by participants at each of the workshops, these features can be consolidated to give us some general good practice 'themes' to learn from.

- **Learning from the past:** Measures which built on past experiences, on existing frameworks, projects or policies were seen to be more successful than standalone measures, or short-term initiatives. It was also highlighted that iterative approaches which are periodically reflected on and improved were also useful to deliver success. Seeing the delivery of measures to achieve the White Paper goals as a process in this respect may be an important lesson to learn from.
- **Policy packaging:** Success has been seen where measures are introduced as part of a package, or in combination with other measures to deliver against policy objectives. Such integrated approaches, that could strive for both effective and acceptable measures were considered to have a broader outlook over the policy or industry landscape. Such approaches were seen to offer a more supportive framework through which to introduce and implement measures.
- **Collaboration, cooperation and partnership:** This was a frequently cited contributor for success. Gathering a broad alliance of the 'right' stakeholders for the task at hand and clearly

delineating roles and responsibilities as well as a good coordination of stakeholders was seen as important by participants across the 4 workshops. Moreover engagement of stakeholders throughout the different stages of the process, not just in delivery or implementation is significant. The same stakeholders may not need to be engaged from beginning to end, but taking time to understand which stakeholders are involved when and what they will be contributing was seen as important.

- **Use of information:** A common success factor seen across the goals was ascertaining what kind of information, expertise, knowledge or training was required to progress the measure under discussion. What was emphasized over and above this however, was actually utilizing this knowledge or information. Furthermore, understanding when, where and what type of information or knowledge might be needed was also identified as important.
- **Clear business case, strong goals and objectives:** It was common in the examples offered by stakeholders in the workshops that when an initiative identifies clear needs, or was well scoped-out, had a vision, strong objectives, or a clear business case, it was successful. As with many of the elements mentioned above, where these elements were missing, cases failed. Whilst things can change, as noted above, many of these initiatives are processes that will undergo changes and learn from experiences, setting a clear direction at the outset is seen here as essential.
- **Leadership/commitment:** Having high-level backing, political support and commitment for any given measure was also seen as a contributor to success across the Thematic Groups. Where there was a lack of political will, or a lack of vision behind an initiative, this was seen as a factor in failure.

Whilst of course the Thematic Groups and goals are diverse, and whilst every situation has its own unique set of conditions, issues, challenges and barriers, it is nonetheless interesting and useful to see that there are some common traits that have been identified across these divides. They may not be a recipe for success as other factors are of course necessary and there is no such thing as a model initiative, but not having these elements in place would perhaps make achieving success more difficult.

6.1.5.2 Common failure factors

As mentioned in the section above, there are some common failure factors which have been identified across all of the thematic workshops which are fundamentally the inverse of those common success factors mentioned previously. These include bad business models or a lack of stakeholder coordination. One measure however, was common to all themes as a barrier which has not already been covered.

- **Financing:** In the urban group, price, market confidence and financing were all highlighted as a barrier to the example initiatives that were offered by the participants – developments were seen as too expensive to get started or to progress. In the freight group, a common issue was articulated with regard to poor cost benefit analysis being undertaken, to under-quoting for the cost of infrastructural development or for a misspending of funds within a given initiative. This is a broader set of issues than those reflected upon in the urban group,

but nonetheless all financial in nature. In the HSR group, the issue of financing again for infrastructure and routes was identified as a barrier to success or a factor for failure. Interesting for the ITS theme, financing was not identified as a barrier; neither as a common or standalone factor, nor was it seen as a factor for success at all. For ITS, the barriers are much more technical or organizational than financial according to the workshop participants.

6.1.5.3 Common sharing practices

Each of the lists produced during the 4 autumn workshops were fairly exhaustive in terms of the sharing measures currently used to transfer good practice examples, as can be seen earlier in section 6. The following list details the means which were commonly mentioned across all workshops.

- Networks
- Conferences
- Workshops/Seminars/Working groups
- Publishing information
- Personal/face-to-face meetings
- Training
- Websites
- Social media

6.1.5.4 Barriers to sharing

It was possible to see some common barriers to sharing highlighted across the groups:

- Time: Day-to-day tasks take priority
- Confidentiality/privacy/competition (reticence to share intellectual property/trade secrets/data)
- Fragmentation/lack of standardization between sectors
- Information/data (too much/not enough)

These similarities highlight that operational barriers are common. Allocating time to sharing and understanding which information is useful would be a straightforward step to removing these barriers. Others like the need for standardisation, require support as is explained in the following section.

6.1.5.5 Role of the EU

Finally some common roles were identified for the EU to play across the thematic workshops. These are expanded upon below.

- **Facilitator/strategist:** It was suggested in multiple workshops that the EU has an important facilitation role to play in the achievement of the White Paper goals. The urban group saw that a sales pitch or vision for objectives developed by the EU would help the Member States and cities to enact measures that could deliver against the goal. A similar role was identified by the ITS group. The freight workshop highlighted that the EU could offer the

industries concerned by the relevant White Paper goal a stable framework in order to make the changes needed to deliver.

- **Legislator:** EU wide legislation was called for by two of the groups, but in both instances it was specified that such mandates should be 'light' or flexible and whilst offering concrete guidance, they should not be prescriptive or strict rules.
- **Standard-setter:** in all of the workshops, the need for standardization of the sector was highlighted and this was seen as a role for the EU. In the freight workshop, standardization of the (rail) sector across Europe was seen as necessary. In the urban group, a standard definition for sharing and harmonizing data was called for from the EU and in the ITS group standard setting at the EU level to ensure that local policies do not differ too much was also flagged. The ERTMS standard was seen as a key enabler for HSR development as well.
- **Supporter:** As financial issues were raised by all Thematic Groups, it is perhaps unsurprising that one of the roles identified for the EU by the workshop participants was as a financial supporter. Funding projects was a role identified in both the ITS and in the urban workshop; financial support was seen as a means through which the EU could level the playing field between the road and rail sectors in the freight workshop. Similarly, support for the railways was highlighted in the HSR group.
- **Visionary:** Finally, it was suggested that the EU, with its long term goals, should be the level at which the long term perspective on how to achieve them should be progressed.

6.1.5.6 Additional considerations

Finally, it is significant that in both the urban and HSR workshops the need to share not only good practice, but also 'bad' practice, scepticism and failure to better understand barriers was highlighted. The idea that examples that have gone badly offer a lot of insight which may be of use was welcomed by both groups of stakeholders and that the culture of forgetting about or ignoring mistakes was unhelpful.

6.1.6 Case changes

As mentioned in section 5.1.5 above, the workshops offered opportunities for the shortlisted case studies to be reviewed by the stakeholders. As a result of this process, two of the Thematic Groups' shortlists were updated. Two of the **freight** cases were changed with Duisport being added and the Barcelona-Civitavecchia Motorway of the Sea route was removed following suggestions that it was actually a higher emission route than the alternatives. Two changes were also made to the **HSR** case study list, as the discussion uncovered that the decision-making process around HSR investment in Sweden was particularly innovative. Similarly, Thalys was added as a case following the workshop. The final list of case studies can be found in Annex 2.

6.2 Case study findings

As was highlighted in section 5, the case studies were designed to enable the consideration of a broad set of elements – the multi-stakeholder dialogue, presence of a leader, external recognition, building on an existing platform or foundation of work, or learning from elsewhere and sharing

subsequent learning – that sets these cases apart from determining success as simply achieving policy objectives. Not all cases cover all elements, but as a repository, it is a useful collection of shared experiences that can be consulted as a tool for answering the question what solutions do we already have.

The objective of this section is not to go through the specific details of each of the case studies in the repository which forms Deliverable 5.1, but rather to draw on the most interesting points coming from the analysis of these cases as a collective. As with the workshops, a lot of useful information that relates to the wider elements of the White Paper goals can be found in the case studies, but the most important elements for discussion here are the success and failure factors, evidence of sharing and transfer and what common lessons can be learned from what is currently underway in Europe. Importantly the case study analysis also gives an opportunity to uncover where identified barriers have been successfully overcome. Firstly, some overview information about the case study repository as a whole.

6.2.1 Overview

A full list of all of the cases studies, their location, scale and focus can be found in Annex 2. As a whole the repository contains a broad set of case studies covering 22 EU Member States, as well as Norway and Switzerland. Of these countries, 10 are new Member States (since 2004). Cases vary in scale – from business approaches, to local initiatives and from national frameworks to European projects. Below is a short breakdown of the focus of each Thematic Group's case studies. This diversity in focus is in line with the approach laid out in section 5.

- The **urban mobility** case studies feature 2 multi-national projects, 1 national project and 7 city-based projects. Of these, 2 concern CO_2-free logistics, 4 are about electric vehicles, 2 feature public transport and 2 are about planning.
- The **freight** case studies focus on 3 different technological solutions that would shift freight from the road to rail, 2 exemplary routes (one railway, one sea) are discussed and 1 policy framework as well as 2 ports and 2 other solutions are highlighted. Whilst the last two are not directly related to modal shift, they demonstrate that by addressing associated or peripheral issues concerning the freight sector, modal shift might be easier to achieve.
- Five of the **HSR** case studies focus on routes that have been successful, 1 company is discussed, 1 case relates to ticketing, 2 cases relate to infrastructure development and the final case relates to information provision for high speed routes across Europe.
- Of the **ITS** case studies, 6 are primarily concerned with ticketing. One is focused on payment and 3 discuss information provision. It is important to emphasise however, that the objective of this goal is to integrate all of these areas and so this separation of focus is deliberately simplistic – these cases have in fact been chosen because of the level of integration that the technologies and policies they cover have been able to achieve.

The guideline length for the case studies was 1.5 – 3 pages and whilst there is some variation the average case study is 2 pages.

6.2.2 Success factors

Across all of the 40 case studies, some 31 distinct success factors were identified – that is they were explicitly mentioned in the materials consulted as a contributor to the success of the policy. It is important to note a subtle distinction between the workshop and case study determinants of success. Whereas in the workshops, participants were asked to reflect on 'what' made an initiative successful, the case studies were framed so as to gain insight about 'how' success was determined or reflected upon – i.e. this case demonstrates success through x. Despite this distinction, as will be seen in chapter 7, there are still some similarities between what can be learned from the workshop discussions and what can be derived from the case studies.

A full list of these factors can be found in Annex 8. Of these 31 factors, only 8 were mentioned in only one case study. This section of the report runs through these case studies by Thematic Group and highlights the most commonly experienced success factors. Similarities between goals begin to emerge as the 4 groups are discussed, with analysis of these common elements in chapter 7.

6.2.2.1 Urban mobility

Across the urban cases 22 success criteria were identified. There were 3 clear common factors in this group. **Delivery against objectives** was stated as a means through which to determine success in 6 of the 10 cases. In 4 of the case studies, the reduction of emissions (either air pollution or greenhouse gases) was considered. A measure being **well received, having positive consumer feedback or public acceptability** was seen in 4 of the cases to demonstrate well-founded initiatives, such as the beÁgueda e-bikes. Four additional factors were seen in 3 of the case studies. These were **use/patronage or uptake of systems, external recognition and awards**, and **built-in sharing or learning, experimentation and demonstration**.

6.2.2.2 Freight

There were 14 success criteria identified in the freight case studies; 6 new success criteria were identified, and 8 success criteria had already been identified in the urban context. For freight, **emission reduction** was seen in 4 of the studies. **Scaling up or increasing adoption rates** was seen in 3 of the case studies and both of these criteria had already been identified. But the largest determinant of success in the freight case studies was the ability of a measure to **save costs.**

Having already achieved a change in **modal share or increased a modal split** away from road was identified in 2 of the cases as a success factor. It is interesting that emphasis placed on this factor was not higher since this is the explicit objective of the White Paper goal. Nevertheless many of the cases studied may be working towards this goal, but simply without having achieved it at the current time. However, because some of the studies were looking at specific technologies or measures to 'facilitate' a modal shift away from road, this wouldn't be expected as a determinant of success for that case. Rather that because the focus of that measure was to facilitate such changes, uptake or usage of the measure would indicate that it was successful. It may also indicate that to succeed in achieving this goal, efforts need to add value to supplementary areas which will be vital to achieve the shift from road.

6.2.2.3 HSR

Fifteen factors of success were identified in the HSR case studies; importantly all of these criteria were already identified by either the urban or freight studies. For HSR, **use/usability** was the most cited factor for success with 6 cases highlighting this. Being able to **use the existing infrastructure** was highlighted in 4 of the cases and achieving a competitive **modal share** was seen as important in 3 cases.

HSR shares 9 success factors in common with the urban case studies and 6 with freight. Three of the factors, namely use/usability, experimentation/demonstration and modal share/split were identified in urban mobility, Freight and HSR.

6.2.2.4 ITS

Some 18 success factors were highlighted in the ITS case studies, 3 of these had not been identified in the other fields. The most common success factor for the ITS theme was **usability or use**, which was highlighted in 6 cases as a determinant of a successful measure. This was followed by **public acceptance**, mentioned in 4 of the studies. Successful **demonstration/ experimentation** was highlighted in 3 cases, as was **cooperation** amongst diverse stakeholders.

There was one factor which was only common between the ITS and the urban field, which was the importance of ambassadors or leaders for the initiative. Seven of the factors seen by ITS were identified by at least 2 other Thematic Groups and 3 factors were common to all 4 Thematic Groups. These were **use/usability**, **demonstration/experimentation** and **modal shift.**

6.2.3 Barriers to success

Across all of the 40 case studies, some 26 distinct barriers were identified. Again the difference between the failure factors identified in the workshops and the barriers discussed in this section, is that workshop participants were asked explicitly to think of unsuccessful initiatives and the reasons for their failure. The case studies however, discuss the barriers that were encountered in the process of implementing the good practice, so it could be said that these obstacles were surmountable. Despite this distinction, as will be seen in chapter 7, there are still some similarities between what can be learned from the workshop discussions and what can be derived from the case studies.

A full list of these barriers can be found in Annex 9. Of these factors, 9 were only identified in a single study. This section of the report runs through these case studies by Thematic Group and highlights the most commonly experienced barriers. Similarities between goals begin to emerge as the 4 groups are discussed, with analysis of these common elements provided in chapter 7.

6.2.3.1 Urban mobility

In the urban group 14 challenges and barriers were identified. Of these, **lack of awareness**, **negative perception** of the measure and the **need for education** were seen in 4 of the studies. Technological and Infrastructural barriers were seen in 3 of the cases, as were barriers related to low rate of adoption/use.

6.2.3.2 Freight

In the freight case studies, 10 barriers were identified in total, 6 had already been seen by the urban group and 4 new ones were uncovered. The most common barrier for the freight sector was that the **existing system** has been preventing change; this was identified in more than half of all the studies. **Financial and economic barriers** were mentioned in 4 of the cases. The cost savings seen as a measure of success and economic barriers that have been identified here as a barrier are significant and illustrate a strong fiscal discourse within the sector, which needs to be appreciated and perhaps better understood.

6.2.3.3 HSR

Within the HSR cases, 10 barriers were highlighted, 3 were new and had not been identified in other case studies. Two of these new barriers were both concerned with **complexity**, which is interesting – both the complexity of governance arrangements required to integrate HSR services with conventional regional and national services and **public opposition** were factors not yet seen in the other fields. The most common barrier for the HSR theme was related to **cost and financing** of projects – this was seen in 4 studies. The existing system and infrastructural challenges alongside the complexity mentioned above were all highlighted in 2 of the cases respectively. HSR shared 6 challenges with the urban theme, (5 of which were seen across all groups) and 1 with the freight theme – this was related to time.

6.2.3.4 ITS

In total 10 barriers were identified in the ITS cases, 5 of these were only seen by the ITS group. This indicates that this goal has some of its own unique challenges to overcome. These include **changing market/framework conditions**, difficulties linking to or **integrating with the existing network** and **data and privacy issues**. ITS was the group with the least amount of common barriers too. In total 3 cases highlighted technological barriers, with time and complex governance structures respecitively also cited in two studies each.

6.2.4 Common themes

This section offers a short synthesis of the commonalities identified in the case studies collectively.

6.2.4.1 Universal success criteria

As mentioned above, three of the 31 success criteria were identified by case studies across all of the Thematic Groups. The first was **use/usability**, this was cited as a determinant of success in 16 of the 40 cases. (3 urban, 1 freight, 6 HSR and 6 ITS). This is perhaps a very straightforward indicator of success, if a measure is public-facing (in terms of use), success can be derived if it is being well patronized. Similarly if something is considered straightforward or simple to operate and this is an encouraging feature, then use of it is expected to be high or rising. Therefore, indications are that investing effort in initiatives to maximize usability is a sensible approach.

Perhaps connected to this, especially where use or usability is linked to a particular mode of transport, route or means of payment, is **modal shift or split**, which was mentioned in 8 case studies across all Thematic Groups (2 urban, 2 freight, 3 HSR and 1 ITS). If a measure has been designed explicitly to shift passengers or cargo from one means of transport to another, its implementation can be seen as a measure of success. In terms of freight it also demonstrates that there is evidence that efforts which contribute to the achievement of the goal are underway and proving successful.

Finally, **demonstration** that an initiative can be successful before rollout and **experimentation** with new ideas was identified in 9 cases across all of the groups (3 urban, 2 freight, 1 HSR, 3 ITS). This feeds back to the iterative approaches that were identified in section 6.1.5.1. An innovation can often yield positive outcomes and improve current situations, but it is important that it is tested and proved, or even improved before roll-out. It is encouraging to see that this has been identified as a measure of success, because it has therefore been acknowledged that testing an idea is important.

It is perhaps interesting to note, that **positive user experience, customers satisfaction and public acceptability** was the second most common success indicator across all 31 identified, with mentions in 10 case studies across all groups except freight (4 urban, 2 HSR, 4 ITS). This suggests that it is indeed an important determinant closely linked to both use/usability and modal shift, where a measure is public facing. Moreover, a measure that resulted in **cost saving or generating profit** was also identified in 9 of the cases (5 freight, 2 HSR, 2 ITS) demonstrating that this remains a priority and a primary concern for more business-related measures.

6.2.4.2 Universal barriers

Two of the identified barriers were both mentioned across 10 of the case studies and seen in all Thematic Groups. The first of these was **financial considerations/economic conditions** (1 urban, 4 freight, 4 HSR and 1 ITS) and this is in line with the failure factor identified in the workshops. It appears that investment to initiate, scale up or sustain particular measures in order to move towards the White Paper goal delivery is likely to continue to remain a key challenge. This appears particularly relevant to investments in Europe's rail network, as this was seen in almost half of all freight and HSR cases.

The second barrier mentioned in 10 case studies across all themes was the **existing system** (1 urban, 6 freight, 2 HSR, 1 ITS). Again this issue would appear most relevant to the freight sector. The inability to experiment or try new things, which was highlighted as an important contributor to success may be hampered by the framework conditions, institutions or even infrastructure in place which is preventing innovation to occur or new players to enter the market. The current state of play for each of these sectors needs to be examined in more detail to enable a more in-depth understanding of the elements of the current system that are creating barriers and how these could be overcome.

Two final elements, **infrastructural barriers** and **dominant players** in the market or sector were highlighted across all Thematic Group case studies in their own right. Infrastructure was cited in

8 of the studies as a barrier (3 urban, 2 freight, 2 HSR, 1 ITS) and large players were highlighted in 5 cases (1 urban, 2 freight, 1 HSR and 1 ITS). Though **technological barriers** were actually identified more often than this factor, in 6 of the case studies but occurred only in two fields (3 urban, 3 ITS).

With the exception of technological barriers, which was only identified in cases across two Thematic Groups, it is very interesting to note that all of the other most frequently referenced barriers were present across all four themes, suggesting that these really are significant obstacles standing in the way of the delivery of the White Paper goals.

6.2.4.3 Common determinants of success v. barriers

As was also seen in the workshop findings, eleven of the particular identified success determinants mirror a corresponding barrier very clearly and there was potential for further connections to be interpreted. In the table below however, the most direct relationships have been highlighted, lending support to the argument that removal of the barriers would enable many more initiatives to succeed.

SUCCESS CRITERIA	BARRIER
Experimentation/demonstration/change in perspective	Existing system
Public acceptability	Public opposition
Political leadership	Lack of/unclear vision
Cooperation/collaboration/partnership/transparency	Complex governance arrangements
High rate of adoption/use/scaling up	Low rate of adoption/use/scaling up
Cost savings/profit	Financial/economic
Technological innovation	Technological limits
Safety improvements	Safety concerns
System stability	Changing framework conditions
Interoperability	Integration/interconnectivity
Marketing/awareness raising/training	Lack of clarity/awareness; need for education

Table 6 Common Determinants of Success v. Barriers

6.2.4.4 Other common elements

As well as common success criteria and barriers, other common characteristics were also identified across the cases and correspond to some of the similarities identified in the workshops, although these elements will be more thoroughly discussed in chapter 7.

A **partnership approach** was explicitly mentioned in six of the case studies, although the grouping of stakeholders outlined in many more of the studies suggested that this was an element there as well. **PPPs** were discussed in 5 of these 6 cases (E-mobility, Madrid – urban; LGV Sud-Est, SNCF, France and Madrid-Seville route, AVE, Spain – both HSR and Autolib', Paris and Resjeplanen, Denmark – both ITS). Interestingly no PPPs were identified in the freight case studies.

Delivering the initiative as part of a **package of measures** was mentioned in 4 of the case studies (E-Mobility, Madrid – urban; Freight transport policy, Switzerland – freight; City-ticket, Deutsche Bahn – HSR and Autolib', Paris – ITS) demonstrating the applicability of this approach across all of the White Paper goals.

The importance of the role played by a particular **leader** was mentioned in 4 of the case studies. Indeed 4 Mayors are mentioned across the repository. These cases are beÁgueda, E-mobility, Madrid – both urban and Autolib', Paris and ID Tickets, Tallinn – both ITS, which suggests that leadership is a significant feature for urban-based initiaitves.

Sharing as a means through which an initiative has benefitted or will deliver learning to others was mentioned in only 6 of the cases including beÁgueda - urban and Oyster Card, London as well as Touch and Travel, Deutsche Bahn – both ITS. It is interesting that the group that highlights data concerns and technological barriers the most is also one of the groups where sharing experiences is seen to be most prevalent. It suggests that so long as sensitive information and intellectual property can be protected, there is still a lot of lessons and experience that can usefully be transferred. The other three case studies, CycleLogistics and Fossil free Växjö and TRAILBLAZER (both urban) and Co-Cities (ITS) are all European projects, and one can clearly see the role that the EU has played here, not just in terms of funding projects, but also in terms of the promotion of information sharing that these projects enable.

Perhaps even more significant, is the approach taken in both CycleLogistics and TRAILBLAZER to enact a system of **mentoring** between organisations and authorities at different stages of progress and to foster expertise and experience sharing to enable positive measures to be taken up in new areas. The 'Master>Climber>Beginner' approach was used in CycleLogistics and the TRAILBLAZER>PATHFINDER approach was similarly used in TRAILBLAZER (A detailed description of these approaches can be found in D5.1).

6.2.4.5 Overcoming Barriers

An important task for this part of the project was to identify areas where barriers had been experienced and overcome in some way. This section selects a few examples from the repository and highlights how obstacles have been removed in particular cases.

6.2.4.5.1 Urban mobility

In the **beÁgueda**, stakeholder consultation users of the e-bike system were asked if there were any problems with the system. Whilst 67% said no, a limited number of parking bays and bikes were identified by some. In the next stage of the project, more bikes and parking bays were introduced, thus addressing the issue. This case highlights the importance of iterative processes and stakeholder consultation.

Madrid's experiences with e-mobility have taught the city of the importance of cooperation with different administrations in creating a stable policy framework. Moreover in Freiburg, public concerns about the proposed changes in the city were mitigated by trialling ideas to demonstrate to the population that they could be possible and ultimately accepted in the city.

6.2.4.5.2 Freight

In the case of **Bosch and Siemens Hausgeräte GmbH,** there was a very specific problem with different sized containers being used on ships and on trains. This barrier was overcome through buying specially constructed containers and importantly through securing a long term contract with a

truck operator to construct a low-lying trailer to convoy the containers for the first initial part of the journey the containers needed to make by truck.

Similarly, **InnovaTrain AG** identified the need for further innovation when beginning to operate the ContainerMover system, and as such the ContainerStation was created following the identification of the difficulty in the companies early stages of service.

Finally, **CarConTrain** has experienced many challenges throughout its development, but has undergone several stages of piloting to identify and remove these. It is clear that a number of the barriers the freight sector is experiencing are infrastructural and new tools are being developed to overcome these. This is in fact a good example of an idea that has experienced problems, perhaps one of the less successful but a good idea type of good practices, and has as such undergone significant changes - a learning by doing approach – and this was a reason for including this case in the repository.

6.2.4.5.3 HSR

Rail Baltica is another example where the process to date in the development of the line has experienced significant difficulties and problems and even perhaps faces an uncertain future. Nonetheless there are some clear positives to take from the project, such as some of the routing decisions that have been taken with a broad range of considerations in mind, including environmental impacts.

The public opposition that SNCF has encountered on the **Sud-Est LGV** high speed line, as well as on many others, has been mitigated to some degree by the installation of high fences which play an important role in reducing the noise caused by passing trains, which was one of the most significant reasons stated by opponents.

6.2.4.5.4 ITS

Rejseplanen was a very ambitious system to set up and faced a significant challenge in bringing together diverse stakeholders from diverse sectors and existing systems to deliver an integrated multi-modal information ticketing and payment system spanning Denmark. The success of the platform demonstrates that such integration can be achieved at scale.

The initial challenge that Deutsche Bahn faced when introducing **Touch and Travel** was the integration of the technology into the smartphones. With the advent of GPS developments, this challenge was removed and highlights the importance of flexibility of approaches and keeping track with technological developments for the sector. The **Oyster Card** was introduced during a phased pilot, first with Transport for London staff and then with a selected group of the public to ensure any flaws could be identified and addressed before launching to the wider population.

In this section, just a limited insight from a selection of case studies demonstrates that infrastructural, technical, organisational, procedural, technological, operational and public barriers have all been experienced and overcome in some way.

7 Discussion: Good practice in the context of the white paper

Bringing together the insights from both the workshops and the case study repository, it becomes apparent that there are some clearly identifiable areas that can and should be taken forward by the work of the TRANSFORuM project and that can be of use in the future as the timeframes for achieving the White Paper goals are getting shorter. These are discussed in this section.

7.1 Success and good practice

Whilst the workshops were investigating the conditions and factors for success and the case studies reflected more on the determinants of success, there are nonetheless a series of common areas that have emerged.

Learning-by-doing and learning from other examples has been a prominent finding across the good practice efforts. Similarly, sharing and utilising knowledge has been emphasised – using the intellectual resources that are available, both internally and externally will enable positive changes.

Having clear, but flexible objectives, a mission or vision and a goal is important. But working towards achieving these outcomes through more than one approach – with a comprehensive package of measures is more likely to deliver. Similarly, thinking of processes, rather than of single initiatives or limited lifespans is an approach which enables continual or periodical adjustments or improvements to be made and to reflect on where change may be needed.

Such processes undertaken through transparent, collaborative arrangements and partnerships where clear roles and responsibilities are allocated can help to remove some of the complexity which stands in the way of delivering successful measures. Multi-level organisation and PPPs were frequently witnessed and in having clarity over who is involved and who is doing what has been important to deliver.

Having the support or the vision of a leader can sometimes be a useful contribution, though not in all cases. Success can be determined if something is well-used, or accepted both publically and internally, thus stakeholder insight and involvement should also be a part of this broad alliance of support.

Finally trying out new things cannot be underestimated. Linking back to the need for iterative processes and the role that experimentation and demonstration have been highlighted to play, innovation has been and will continue to be one of the most important elements of developments that move towards the achievement of the White Paper goals. When things work well, people use them and by that they become successful – this sounds very straightforward but 'use' or 'usability' was highlighted time and again as the most important reason for success.

7.2 Barriers, failures and bad practice

Workshop participants in particular were keen to emphasise that things fail and that when they do, much insight can be offered and many lessons learned, therefore there is perhaps as much need to remember what did not work and why, as there is to keep drawing lessons from the exemplary activities that take place. Ideas will not always work, and mistakes will be made, but it is important to gain insight from these instances that fail as well as from those that succeed. This may require a shift in the current mindset, or a change of the negative connotations of failure as something to be forgotten about, towards taking stock, being accountable and moving forward reflecting on what needs to change. There is perhaps a need for bad practice case studies in future learning.

As with success, there are often very particular factors which prevent progress from occurring or which cause a project to fail. These were brought forward in the workshops and can be seen in Annex 7. There are however, as has been uncovered in this report, a number of barriers which have been witnessed across the 4 Thematic Group case studies and the workshops. It is most important to take stock of these common barriers and to raise the awareness about them within activities that contribute to the White Paper progress.

To single out the most prominent barrier – finance – was noted in all of the workshops and in 10 of the case studies as either a barrier to success or a reason for failure. Change will be expensive, recent economic conditions have been challenging, revenues have not been as high as expected, all of these elements have in common that investment is needed in order to achieve the goals. Particular case studies across the Thematic Groups stressed that the current investment given to the road sector greatly diminishes the possibility for large scale modal shift to occur. A shift towards rail (passenger and freight), to non-conventionally fuelled vehicles and to integrated ticketing and payment systems (for public transport), all rely on less funding being allocated to the road sector. In consequence this funding should be re-channeled towards these alternative modes leading to a significant ramp up in investment in these sectors. The EU was highlighted in all cases to have to play a role here.

As well as a lack of resources is often preventing these progress towards the achievement of the goals, primarily infrastructural and technological barriers also need to be overcome, and it could be argued that these areas are linked through investment.

7.3 Linking to trends and barriers

This section reflects on the trends and barriers that were identified at the beginning of the TRANSFORuM project with insight that has been derived from the good practice cases studies and workshops.

7.3.1 Links to trends

7.3.1.1 Urban mobility

A broad range of case studies was selected for the urban transport goal in order to reflect the different strategic areas involved. Technological, planning-based and public transport studies were all taken into account. Inefficient pricing and a lack of integrated transport planning were flagged as issues and the financing and coordination barriers identified in the urban case studies reflect agreement with these trends.

7.3.1.2 Freight

The need for cross-border capacity development and for new technologies to enable modal shift were identified as trends in this field and thus were reflected upon in the choice of case studies. It was seen that better coordination between players was necessary a fact identified in the case studies as a barrier if non-existing. This also includes the 'lack of stakeholder coordination' highlighted in the workshops as another failure factor. Other trends highlighted include modal shift which was featured in the case studies as a determinant of success and investments. Investments were seen as a success factor in the workshops while a lack of investments was identified as a barrier in the case studies. Switzerland was first mentioned at this stage and was subsequently chosen as a case study and as a workshop location.

7.3.1.3 HSR

Interoperability and intermodality were highlighted as important trends and case studies which concerned these areas were selected. Financing and PPPs were identified as important success and/or failure criteria or even barriers by both the workshops and the case studies.

The trends that emerged with regard to the focus of the goal were relevant to the subsequent work in this part of the project. The use and usability of services was seen as a determinant of success in 6 of the case studies, customer satisfaction or the quality of the service, punctuality, reliability and time savings were all highlighted as success factors, in a total of 5 out of 10 studies. The success that a route had gained a modal shift away from road or air to rail was stated in 3 studies, as patronage of a line was seen as an indicator that a HSR route was desirable. Length of the route as a determinant of success did not feature. This indicates that perhaps taking this insight forward and looking into these broader considerations as the network grows is fundamental.

7.3.1.4 ITS

Safer, greener and more efficient services was seen as a trend that did not receive a lot of emphasis in the workshops or case studies, despite being desirable qualities for passengers using an integrated system. Use of the existing infrastructure and enabling the user to choose as well as links between providers and users, were identified in the case studies. The Co-Cities and the Real time travel information in Hungary studies are 2 examples that are reliant on user input and that make use of the existing infrastructure.

Investment and PPPs were highlighted as a key trend in both the workshops and the case studies. Data issues and standardisation were other topics brought forward as being trends.

7.3.2 Links to barriers

To recap, the following list of barriers was identified earlier in the project:

- The mind-set of (groups of) stakeholders
- Lack of political will
- The need for politicians, officials and scientists to work together but current general lack of coordination and integration
- The lack of broader goals in the White Paper (around land use and travel demand management, for example)
- Time constraints of distinct projects v. longer-term future
- Goals are too ambitious to lead to 'transformation'

Of these barriers, change in mindset, or perspectives, political will, or commitment, working together (collaboration/coordination) and time all featured on the list of 31 success determinants that were identified in the case studies and 3 factors: policy packaging, leadership and collaboration were identified as common success factors by the workshops. This insight suggests that whilst these elements are indeed barriers, they can be overcome and there is a wealth of evidence to support this.

There are far more broad considerations that have emerged, and one could see much more agreement between common areas of success and between barriers than expected.

7.4 Links between Thematic Groups and goals

One important insight to take from this report and the case study repository is that there is a significant degree of cross over between the Thematic Groups, and the goals, in terms of the lessons learned, but also more generally, that is not being capitalised on. The diagram below highlights some of the fundamental links that exist between the Thematic Groups.

Framing future efforts around these common areas and relationships and taking time to understand where additional commonalities lie, would perhaps create a higher potential for more successful initiatives to come to fruition.

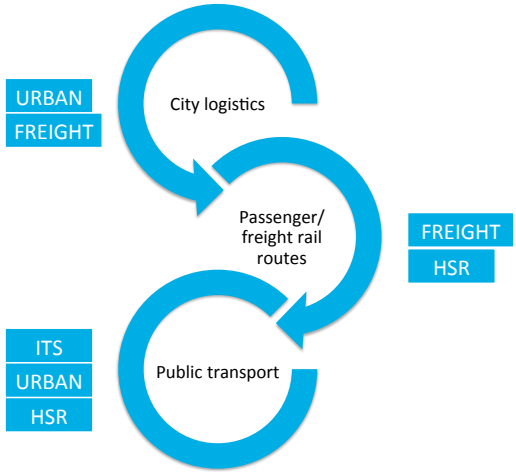

Figure 5 Crossover Between Thematic Groups

8 Conclusion

The White Paper calls for transformation of the European transport system in order to deliver against the goals it lays out, but states that this can only be achieved through "a combination of manifold initiatives at all levels". The evidence that has been presented in this report highlights that such activities are underway, but that much more effort is required. Multi-level and flexible governance structures and working relationships need to be established to ensure that the broad alliance of stakeholders necessary to deliver against these goals is in place.

The work undertaken in this part of the project has not been without its challenges, but it has been delivered taking into account lessons learned along the way and reflecting on the preceding work. It offers a useful resource for the compilation of the roadmaps and a strategic outlook.

The examination of good practice has offered an opportunity to look in depth at what is currently happening in Europe, at initiatives that have been proven to work and to investigate whether there are factors that will always make progress more difficult. There are indeed some factors that are necessary conditions for success – a clear objective and collaboration are oftentimes useful. However, there are challenges which whilst not unsurmountable, are immense like: rebalancing at scale our system away from the road and towards alternative modes of transport. Bad practice can be as important to our appreciation of what is needed and insight from past failures is a useful tool that should perhaps be considered more, in particular to understand barriers and how to overcome them. In addition, more time should be allocated to sharing as it too has been acknowledged to play a clear role in learning.

With the insight that was subsequently gained by holding Spring workshops in the locations of other cast study contexts[2], TRANSFORuM stakeholders were given an opportunity to see this work on good practice as part of a process, that can continue to be learned from and that continues to make use of information, insight and expertise.

There is such diversity between the starting points of each sector, urban area, company or government that will have a contributory role in delivering the White Paper goals that it is difficult to grasp what the process of collective transformation will look like. For some it will be a continued path of incremental changes, for others systemic, fundamental and large scale shifts will be required.

This report has demonstrated that progress and change are occurring and that indeed transformation is possible. Developments are being made towards each of the goals by a broad array of stakeholders and in diverse parts of Europe. But as was highlighted as a barrier earlier in the project, the scale of change at the current time doesn't entirely befit the level of ambition of the goals, there is still much work to be done and more efforts need to be made to understand how large scale transformation can be made possible.

[2] Urban mobility– Copenhagen, Denmark (CycleLogistics), Freight – Duisburg, Germany (Duisport), HSR – Rome, Italy (Frecciarossa), ITS – Tallinn, Estonia (ID Tickets and Free Public Transport)

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Annexes

Annex 1: Case Study Template

Thematic Group:
Name of case study:
Specific area of focus: (reference how this informs White Paper goal achievement)
One line justification for inclusion:
Time period: (can be on-going)

Overview (100-200 word) Should be a summary of the in-depth information below

Background: Scale of action (city, region, national, business, policy network/alliance, across scales). Including details on the problem addressed – (why) was change necessary? What conditions made the change possible? (e.g. competition, innovation, external factors) Historical/important context factors? (existing regulation etc.)

Process: How did the initiative/policy come about: what were the driving forces? What were the values, perceptions and ideas at the start of the process? Was the policy in question the driving force behind the change that has occurred? Is the project being delivered through transparent processes? – details; Clear time frame/delivered on time? Linked to future plans? What are future plans?

Details: Does the policy/strategy consider other factors, or were other factors important to policy (societal, cultural, technical, economic)? Clear aims and objectives: describe – what was the project/policy/initiatives own goals? Measurement/monitoring and reporting against objectives? Value for money/financial viability/on budget? In line with other policy areas? Social/environmental (as well as economic) considerations (holistic sustainability) Funding mechanisms?

Stakeholders: Participatory/engagement of civil society – citizens – future users? Acceptability. Levels of government: clear/cohesive governance structure? Business engagement? Clear leadership/charismatic individuals? Accountability; clarity on roles and responsibilities?

Success: Reason and measures for success. (Analysis drawing on information above and any specific information relating to this context/uniqueness of the case). Sum up evidence of what transformation looks like. Successful outcomes and successful outputs. Long term impact of success?

Challenges/barriers faced: What didn't go to plan/failed? Is anything being done to overcome these lessons in next stages? What other lessons have been learned?

Transferability/learning/scaling up:
Did this case study build on good practice learning? Scaling up/replication/sharing evidence from the case study?

Annex 2: List of Case Studies

Number in repository	Title	Location	Focus	Scale	TG	Draft by
2.1	beÁgueda	Águeda, Portugal	Electric bikes	City	Urban	UOXF
2.2	CNG and biofuel buses	Toulouse, France	Public transport	City	Urban	TOI
2.3	Cyclelogistics	Multi-national	CO_2-free city logistics	European	Urban	UOXF
2.4	E-mobility	Madrid, Spain	Electromobility	City	Urban	UOXF
2.5	Electromobility model regions	Germany	Electromobility	National	Urban	UOXF
2.6	Electric vehicles	Oslo, Norway	Electromobility	City	Urban	TOI
2.7	Fossil free Växjö and TRAILBLAZER	Växjö, Sweden	CO_2-free city logistics	City	Urban	TOI
2.8	Multi-modal transport planning	Freiburg, Germany	Urban planning	City	Urban	TOI
2.9	Sustainable urban transport plan	Maribor, Slovenia	Urban planning	City	Urban	UG
2.10	Trolleybuses	Gdynia, Poland	Public transport	City	Urban	UG
3.1	Bosch and Siemens Hausgeräte GmbH	Germany	Multi-modal route	Company	Freight	TOI
3.2	CarConTrain	Sweden	Freight handling technology	Company	Freight	UG
3.3	Duisport	Germany	Multi-modal port	Port	Freight	UOXF
3.4	Freight transport policy	Switzerland	Policy framework	National	Freight	UOXF
3.5	InnovaTrain AG	Switzerland	Horizontal transhipment technology	Company	Freight	UOXF
3.6	KASSETTS project	Multi-national	Freight optimisation	European	Freight	CDV
3.7	Megaswing trailer wagon	Sweden	Intermodal wagon	Company	Freight	UG
3.8	Motorways of the Sea: Esbjerg-Zeebrugge	Multi-national	Route mode shift – road - waterways	European	Freight	TOI
3.9	Oversize Baltic	Multi-national	Harmonizing oversize transport procedures	European	Freight	UG
3.10	Railport Scandinavia	Gothenburg, Sweden	Multi-modal port	Port	Freight	TOI
4.1	City-Ticket	Deutsche Bahn, Germany	Integration of local and high	National	HSR	TOI

			speed journeys			
4.2	Frecciarossa	Trenitalia, Italy	Speed/modal share of route	Route	HSR	CDV
4.3	HS1 and Eurostar	Multi-national	Multi-stakeholder route	Route	HSR	UOXF
4.4	HSR investment	Sweden	Decision making process	National	HSR	UG
4.5	Javelin	Southeastern, UK	Temporary high speed service	Service	HSR	UOXF
4.6	LGV Sud-Est	SNCF, France	First high speed line and train	Route	HSR	UOXF
4.7	Madrid-Seville route	AVE, Spain	Modal share of route	Route	HSR	CDV
4.8	Rail Baltica	Multi-national	Infrastructure development	Cross-border	HSR	UG
4.9	Rail Europe Ltd.	Multi-national	Integrated HSR ticketing	European	HSR	CDV
4.10	Thalys	Multi-national	HSR partnership operation	Cross-border	HSR	UOXF
5.1	ACTIV Card	Bucharest, Romania	RFID smart card	City	ITS	UG
5.2	Autolib’	Paris, France	Car-sharing scheme	City	ITS	UOXF
5.3	Co-Cities – European Collaborative Mobility Services	Multi-national	Dynamic feedback loop: users and information providers	European	ITS	UOXF
5.4	GA Travel Card	Switzerland	Network-wide travel card	National	ITS	TOI
5.5	ID Tickets	Tallinn, Estonia	Integrated ID and travel tickets	City	ITS	UG
5.6	Omnibus Card	Brescia, Italy	Multi-modal electronic ticketing	City	ITS	TOI
5.7	Oyster Card	London, UK	Electronic ticketing and payment	City	ITS	UOXF
5.8	Real time traffic information	Budapest, Hungary	Real time traffic information	City	ITS	UG
5.9	Rejseplanen	Denmark	Online journey planner	National	ITS	UG
5.10	Touch and Travel	Deutsche Bahn, Germany	Smart phone app	National	ITS	UOXF

Annex 3: Case Study Interview Participants

Urban[§]:

Oslo City Council Representative (Electric vehicles, Oslo, Norway case)

Outspoken Delivery Representative (CycleLogistics case)

Freight:

InnovaTrain AG Representative (InnovaTrain AG case)

Swiss Government Representative (Freight transport policy, Switzerland case)

HSR:

Fundacion CDH Representative (Madrid-Seville route, AVE, Spain case)

SNCF Representative (LGV Sud-Est, SNCF, France case)

ITS:

Transport for London Representative (Oyster Card, London, UK case)

Deutsche Bahn Representative* (Touch and Travel, Deutsche Bahn, Germany)

Supplementary information:

[§] A representative from Madrid Energy Agency was also consulted for clarification on facts relating to E-mobility, Madrid, Spain case

* Also offered insight on City-Ticket, Deutsche Bahn, Germany case

Annex 4: Workshop Participants

	STAKEHOLDERS		STAKEHOLDER MIX					GEOGRAPHIC MIX	
Workshop	**Participants**	**M/F**	**Policy**	**Industry**	**Academia**	**Civil Society**	**Assoc.**	**Countries**	**Countries represented**
Urban, Oslo, NO	9	6/3	2	2	1	4	0	6	BE, DE, ES, NO, RO, UK
Freight, Basel, CH	13	10/3	3	6	2	0	2	9	AT, BE, CH, DE, DK, LT, NL, RO, SE
HSR, Lyon, FR	10	8/2	1	2	2	0	5	5 (2)	ES, FR, NL, SE, UK, (CN, JP)
ITS, Reading, UK	11	9/2	5	3	2	0	0	6	CZ, DE, FI, NL, SE, UK

(COUNTRY) denotes international participants from outside European continent. Non-EU countries CH and NO inclusive here as workshop locations

Annex 5: Case Study Coverage

The European Union

Countries covered by case studies:

Austria (AT)	The Netherlands (NL)
Belgium (BE)	Poland (PL)
Bulgaria (BG)	Portugal (PT)
Czech Republic (CZ)	Romania (RO)
Denmark (DK)	Slovakia (SK)
Estonia (EE)	Slovenia (SI)
Finland (FI)	Spain (ES)
France (FR)	Sweden (SE)
Germany (DE)	**United Kingdom (UK)**
Hungary (HU)	
Italy (IT)	***Norway (NO)***
Latvia (LV)	***Switzerland (CH)***
Lithuania (LT)	**Bold** also indicates workshop location

Annex 6: Local stakeholder presentations made in each workshop

Urban[§]:

Norway Post Representative

Move About Representative

Freight:

InnovaTrain AG Representative

Swiss Government Representative

HSR:

SNCF Representative

ITS:

Reading Borough Council Representative

Transport for London Representative

Annex 7: Non-Common Success/Failure Factors Identified at Autumn Workshops

Non-Common Identified Success Factors: Workshops

Urban ■ Fulfilled an identified need ■ Changing mind-sets ■ Early adopters ■ Operating at scale ■ Easy to monitor ideas ■ Diversity of approach (new/different/more than one thing at once) ■ Utilizes expertise	**Freight** ■ Early investment ■ Big company support and commitment ■ Trying alternative models of operation ■ Strong objectives ■ Fast decisions ■ Executed well ■ Big crisis necessary for breakthrough ■ Strong environmental mandate ■ Mix of large and small companies ■ Incremental changes in conditions/the market
HSR No success factors session at Lyon workshop	**ITS** ■ Combination/package of measures ■ Realistic goals ■ Good business case ■ Separate ticketing from information

Non-Common Identified Failure Factors: Workshops

Urban ■ Unwillingness to take risks ■ Changing parameters of focus ■ Listening to lobby ■ Ineffective measures / rebound ■ Lack of political action ■ Not transferring knowledge into practice	**Freight** ■ Incompatible techniques ■ Lack of modal integration in big companies ■ No commitment from the market ■ Greenwashing ■ Lack of supporting policy ■ Complicated processes ■ Lack of operational knowledge ■ Money is not an initiative or business model for the future (if EU doesn't have right information, they don't know best initiatives to invest in) ■ Lack of transparency ■ Wrong state policy
HSR No failure factors session at Lyon workshop	**ITS** ■ Timing ■ Project/product not fit for purpose ■ Regional elections – lack of sharing ■ Lobby power of logistics sector ■ Trying to do too much at once ■ Trying to establish common standards on a voluntary basis in a deregulated market without the necessary power to steer and co-ordinate

Annex 8: All success factors identified in case study repository

- Delivery against objectives
- Use/usability
- Emission (air pollutants and GHG) reduction
- Positive experience/satisfaction (consumers)/public acceptability
- Awards
- Political commitment
- Transparency
- Requirement for procurement (spreading good measures)
- Change in perspectives/broad decision-making parameters (than cost)
- Innovative methodology/mode of operation
- Built in sharing/learning from others first
- Follow up/new organisations/institutionalisation
- Scaling up/adoption/ (growth)
- Cooperation between different administrations/collaboration/partnership
- Experimentation/demonstration
- Large scale/investment approach
- Market leadership
- Package of measures
- Training
- Ambassadors/leaders
- Modal shift/split
- System stability
- Increased reliability/punctuality
- Safety and security improvements
- Use/improving/clarifying/integration of existing system
- Cost savings/profit
- Increased efficiency/time savings
- Technology solution
- Marketing/awareness raising
- Interoperability
- Broad market base

Annex 9: All barriers identified in case study repository

- Lack of clarity
- Legislation/mixed signals
- Technology
- Infrastructure
- Removing subsidy/introducing charge
- Lack of awareness/driving safety/need for education/perception
- Large players already in place (challenges for/needs of small scale solutions are different)/competition
- Rate of adoption/use/scaling up
- Vision
- Overarching/external factors (i.e. temperature/location)
- Coordination/consolidation of operations
- Business opposition
- Existing system
- Financing/economic conditions
- Bad management
- Safety
- Time
- Non-compliance
- Complex governance arrangements
- Complexity/interconnectivity
- Public opposition
- Limited market
- Changing framework/market conditions
- Lack of capacity
- Organisational/integration with network
- Data/privacy