ASSIST - Assessing the social and economic impacts of past and future sustainable transport policy in Europe

Workpackage 2: Transport Policy Measure Impact Assessment

FACT SHEET NO.: 8/1 **PERFORMED BY: TRT**

A GENERAL INFORMATION

A 1	**Category**	**Other**
A 2	**Subcategory**	**Alternative commute solutions**
A 3	**Transport policy measure (TPM)**	**Teleworking**
A 4	**Description of TPM**	Teleworking can be defined as a method of organising and/or performing work in which a considerable proportion of an employee's working time is: - away from the firm's premises or where the output is delivered; and - when work is done using information technology and technology for data transmission, in particular the Internet. It includes various forms of telework: home-based, mobile, teleconferencing, tele-centers.
A 5	**Implementation examples**	Germany: LVM in Münster Belgium: Alcatel UK: AA call centres / British Airports Authority, Heathrow France: DANEL Group USA: First Interstate Bank / Washington State Department of Transportation / City of Redmond
A 6	**Objectives of TPM**	In a 'transport' orientated view, the TPM aim at reducing commuting trips (and therefore congestion and related pollutant emissions). From a social point of view, the objective is mainly to improve the balance between professional and private life, in the view of increasing quality of life. From the employer point of view, the TPM might reduce cost, increase productivity and competitiveness. Full-time and part-time teleworking may produce different impacts in terms of size: impacts may be smoothed (or even negligible) in case of part-time option, depending also on the work schedule. The impacts also depend on the number of employees opting in teleworking.
A 7	**Key changes concerning:**	
A 7.1	- Choice of transport mode / Multimodality:	No major change
A 7.2	- Origin and/or destination of trip:	No major change
A 7.3	- Trip frequency:	Major change [2] [3] [5] [6] [8] [9]
A 7.4	- Choice of route:	Possible change
A 7.5	- Timing (day, hour):	Possible change [2] [5] [6] [8] [9]
A 7.6	- Occupancy rate / Loading factor:	Possible change, depending on choice during the selected time period. [6] [9]
A 7.7	- Energy efficiency / Energy usage:	Possible change, depending on mode choice during the selected time period and on the original situation [2] [3 [5] [8]
A 8	**Main source**	[2] [5] [6] [8] [9]

B IMPACTS

B 1 OVERVIEW ON IMPACTS

		AFFECTED SEGMENTS															Geographical level		Source	
		Passengers					Transport operators						Employees in transport	Residents	Economy	Public bodies	Society				
		Road	Rail	Air	Public transport	Slow modes	Road	Rail	IWW	Air	Maritime	Public transport						1st level	2nd level	Source of assessment	Spatial level of source
B 1.1	**Summary**																	L	R	S	L
		- main impacts will affect the amount of commuting trips, resulting in reduced traffic congestion, especially during peak hour [2] [6] [9]; - an increased job satisfaction and quality of life is expected: employees reconcile their work obligations and personal life. [2] [8] [9]																			
B 1.2	**Summary: Income groups**	Some groups might have more benefits as their job is more suitable for tele-working, while other might be excluded																			
B 1.3	**Summary: Age groups**	Ageing employees might have more interest to adopt a tele-working policy (part-time or full-time), especially when approaching their retirement.																			
B 1.4	**Summary: Disabled people**	Disabled employees might have more interest to adopt a tele-working policy, reducing the need for travelling [6] [8] [9]																			
B 1.5	**Summary: Gender groups**	Female might have more interest to adopt a tele-working policy (part-time or full-time) [6]																			
B 1.6	**Summary: Ethnic groups**	No specific change																			

B 2 TRAFFIC IMPACTS

		AFFECTED SEGMENTS															Geographical level		Source	
		Passengers					Transport operators						Employees in transport	Residents	Economy	Public bodies	Society				
		Road	Rail	Air	Public transport	Slow modes	Road	Rail	IWW	Air	Maritime	Public transport						1st level	2nd level	Source of assessment	Spatial level of source
B 2.1	Travel or transport time	↘	→		→	→	→	→				→						L	R	S	L
B 2.2	Risk of congestion	↘			↘	↘	→											L	R	S	L
B 2.3	Vehicle mileage	↘	→		→	→		→				→						L	R	S	L
B 2.4	Service and comfort		→		→			→				→						L	R	E	
B 2.I	**Overall impacts on social groups**	Reduced stress related to travelling, less congestion or crowded public transport modes, especially during peak hour [6] [9].																			
B 2.II	**Implementation phase**																				
B 2.III	**Operation phase**																				
B 2.IV	**Summary / comments concerning the main impacts**	- less congestion and reduced transport time for road transport, especially during peak hour [2] [3] [6] [7] [8] [9] - less commuting trips, especially during peak hour [2] [3] [5] [6] [7] [8] [9] - teleworking might generate more trips for non-commuting purposes, eroding the reduction of total travel [2] [3] [5] - indirectly road freight transport might benefit from less congestion and reduced transport time - public transport service might need to be adjusted according to the new demand (reduced for commuting trips and peak hours) - Telework tends to be particularly attractive to longer-distance commuters, so vehicle-km reductions tend to be relatively high [5] [8]																			
B 2.V	**Quantification of impacts**	commuting vehicle-miles decreased by 2.3% to 4.2%, total commute travel reduced by 10% in UK, total household travel reduced by 0.6-1.1% [5]; if 10% of the workforce telecommutes on any given day, total vehicle travel would decline by 1% to 4% in US study; net reduction is 0.6% of household travel if 6.1% of the California workforce may currently telecommute 1.2 days a week on average [8]; -0.9% of the total commuting distance travelled, and -0.2% to -1.6% (or +2.5% with rebound effect) of all passenger kilometres [2]																			

B 3 ECONOMIC IMPACTS

		AFFECTED SEGMENTS															Geographical level		Source	
		Passengers					Transport operators						Employees in transport	Residents	Economy	Public bodies	Society				
		Road	Rail	Air	Public transport	Slow modes	Road	Rail	IWW	Air	Maritime	Public transport						1st level	2nd level	Source of assessment	Spatial level of source
B 3.1	Transport costs	→						→				→						L	R	S	L
B 3.2	Private income / commercial turn over													→	→			L	R	S	L
B 3.3	Revenues in the transport sector							→				→						L	R	E	
B 3.4	Sectoral competitiveness														→			L	R	S	L
B 3.5	Spatial competitiveness																				
B 3.6	Housing expenditures																				
B 3.7	Insurance costs																				
B 3.8	Health service costs																				
B 3.9	Public authorities & adm. burdens on businesses																				
B 3.10	Public income (e.g.: taxes, charges)																				
B 3.11	Third countries and international relations																				
B 3.I	Overall impacts on social groups	Possible reduction of transport costs for passengers, in case of reduced use. On the other hand, revenues in the transport sector might be slightly reduced. From the perspective of the enterprise, sectoral competitivness might be incresed, resulting from efficient and effective staff utilisation.																			
B 3.II	**Implementation phase**																				
B 3.III	**Operation phase**																				
B 3.IV	**Summary / comments concerning the main impacts**	- sectoral competitiveness of enterprise might be increased, resulting from efficient and effective staff utilisation [9] - possible saving of car operation and maintenance costs, in case of reduced use [7] [8] - revenues for public transport operator might be sligthly reduced, depending on mode choice - possible additional private investment to set up home / mobile equipment, planning program, security and utility expenses [8] - possible saving for the company due to decreased absenteeism, tardiness and turnover, and increased productivity [2] [8] [9]																			

B 3.V	**Quantification of impacts**	

B 4	**SOCIAL IMPACTS**	**AFFECTED SEGMENTS**															**Geographical level**		**Source**	
		Passengers					**Transport operators**													
		Road	Rail	Air	Public transport	Slow modes	Road	Rail	IWW	Air	Maritime	Public transport	**Employees in transport**	**Residents**	**Economy**	**Public bodies**	**Society**	1st level	2nd level	Source of assessment	Spatial level of source
B 4.1	Health (incl. well-being)	↗	↗		↗	↗								↗				L	R	S	L
B 4.2	Safety	→												→				L	R	S	L
B 4.3	Crime, terrorism and security																				
B 4.4	Accessibility of transport systems																				
B 4.5	Social inclusion, equality & opportunities													→				L	R	S	L
B 4.6	Standards and rights (related to job quality)																				
B 4.7	Employment and labour markets														→			L	R	S	L
B 4.8	Cultural heritage / culture																				

B 4.I	**Overall impacts on social groups**	increased job satisfaction and quality of life expected [2] [4] [9]; slight increase of safety for road modes due to reduced congestion
B 4.II	**Implementation phase**	
B 4.III	**Operation phase**	
B 4.IV	**Summary / comments concerning the main impacts**	- increased job satisfaction and quality of life expected [2] [4] [9] ; - slight increase of safety for road modes due to reduced congestion, if rebound effects are not there [8]; - Some employee categories may be excluded: equality not increased [8]; - can improve employment opportunities for some disadvantaged groups [8] - possible positive impacts on employment [2] [8] [9] - Improved employee productivity by reducing stress related to commuting [8]
B 4.V	**Quantification of impacts**	

B 5	**ENVIRONMENTAL IMPACTS**	**AFFECTED SEGMENTS**															**Geographical level**		**Source**	
		Passengers					**Transport operators**													
		Road	Rail	Air	Public transport	Slow modes	Road	Rail	IWW	Air	Maritime	Public transport	**Employees in transport**	**Residents**	**Economy**	**Public bodies**	**Society**	1st level	2nd level	Source of assessment	Spatial level of source
B 5.1	Air pollutants													→				L	R	S	L
B 5.2	Noise emissions													→				L	R	E	
B 5.3	Visual quality of the landscape																				
B 5.4	Land use													→				L	R	S	R
B 5.5	Climate																→	L	R	S	R
B 5.6	Renewable or non-renewable resources																				

B 5.I	**Overall impacts on social groups**	impacts on air pollution [2] [3] [5] [6] [7] [8] [9], climate change [3] [6] [8] and noise emission
B 5.II	**Implementation phase**	
B 5.III	**Operation phase**	
B 5.IV	**Summary / comments concerning the main impacts**	- Teleworking might impact on air pollution [2] [3] [5] [6] [7] [8] [9], climate change [3] [6] [8] and noise emission, in case of an overall reduction of trips - It might encourage more dispersed land use (sprawl) [8]
B 5.V	**Quantification of impacts**	

C REFERENCES

C 1	**Other TPMs of this subcategory**	**Flexible working hours (often applied in combination)**
C 2	**References**	**International** [1] EC DG EMPL (2009), Flexible working time arrangements and gender equality - A comparative review of 30 European countries [2] EC (2003), DEESD project: Telework and sustainable development A case study with the Global eSustainability Initiative (GeSI) [3] EC (2002), eWork 2002 - Status Report on New Ways to Work in the Knowledge Economy **National** [4] House of Commons All-Party Parliamentary Small Business Group (2009), Flexible Working: Challenges for Business, UK [5] DTLR (2002), The Impact of Information and Communications Technologies on Travel and Freight Distribution Patterns: Review and Assessment of Literature. Final Report, UK [6] G. Lyons, A. Felstead (2007), The impact of teleworking and teleconferencing on transport policy, ESRC, UK [7] Ministerie van Verkeer en Waterstaat (2006), Nota Mobiliteit. Deel IV - Na parlementaire behandeling vastgestelde PKB **Regional / Local** [8] Victoria Transport Policy Institute, Telework (http://www.vtpi.org/tdm/tdm43.htm), CA [9] Transport for London (2011), Smarter Working guide, London (UK)