

D4.1: Multi-sectorial trends and drivers shaping the future of European transport

:RUN 3DFNDJH :3

'HOLYHUDEOH

'XH GDWH

6HS^WHPEHU

6XEPLVVLRQ GDWH

^{WK}1RYHPEHU

5HVSRQVLEOH 3DUWQHU

,6,1129\$

9HUVLRQ

)LQDO

\$XWKRU

'DQLHO &DVVROj

6LOYLD *DJJL

\$QGUHD 5LFFL

'HOLYHUDEOH 7\SH

5

'LVVHPLQDWLRQ /HYHO

38 3HQGLQJ 5HYLHZ

Contents

1	Executive summary	3
2	Introduction	4
3	Overview of trends and weak signals	5
4	Exploratory conversations and main outcomes	13
	'LDORJXH \$XWRPDWHG YHKLFOHV	13
	'LDORJXH 'LJLWDOLVDWLRQ	16
	'LDORJXH 7RZDUGV JUHHQHU WUDQVSRUW FKRI	
	'LDORJXH 7KH IXWXUH UROH RI WKH EDU	
	'LDORJXH /LYLQJ ZRUNLQJ DQG VKRS\$SLQJ SDW	
	7UHQQV DQG VLJQDOV IURP H[SORUDWL\$H FRQYH	
5	From transport and mobility trends to cultural and value drivers	31
6	Way forward: Anticipating the scenario framework	38
	ANNEX 1 - REFERENCES	40
	ANNEX 2 – Exploratory dialogues briefs	46



1 EXECUTIVE SUMMARY

7KLV UHSRUW IRFXVHV RQ WKH LQLWLDO RVEKSDORILQVKSIUSR%\$X\$ WKH PDLQ UHVXOWV DFKLHYHG

&KDSWHU VHWV WKH VFHQH IRGUKWKOLJ\$W%\$LW\$ LQQRYDWLYH IHDWXUHV

&KDSWHU GHVFULEHV WKH KRULJRQ DQDQQLWLFOLULLVGR R DQG VLJQDOV WKDW DUH GHHPHG5(9%\$Q\$H&DQLWHIRU)\W IDFWRUV WKDW SRLQW DW SRVLEOWFKKXQGHUOQLQRBYDOLXW WUHQGV DQG VLJQDOV ZHUH WKXV LBHQWLRQVGRIDVGHUHPVELL GHEDWH OLIHVW\OHRVGDVUDBKRIODKDEWVWKHPHFLDQGYLVLRQV LQWHUDFWLRQV

&KDSWHU SURYLGHXQVGRWDLVHULIDVFRQYH[SODWRDWRW WKDV VWDJHG ZLWK WKLQNHUV DQG H[SHUWVSHQRWGHILQWRVEDPS WUHQGV DQG GULYHUV ,W SUHVHQWVWK DGGGLWLRQFQDQHWLUR FXOWXUDO DQG YDOXH EDVHG G\QDPLFV

&KDSWHU H[SODLQV KRZ WKH FRQROURDWHKHSUHYLRRXGUV ZDV UH HODERUDWHG WR GHYLVH FKDDQVHLVWRIRVGLIYHU WR PRELQW\FXOWXUH \$ILQDOVSHVHWLRQRI GULYHUV

&KDSWHU RXWOLQHV WKH ZD\IRUZDGVWLRQFORXGWLQH DLUH GULYHUV DQG WKH LGHQWLILFDWLRQVIRLQVLRUWRILMWRIL GHVLJQRIWKH5(%\$/\$1&(VFHQDULRVDFH

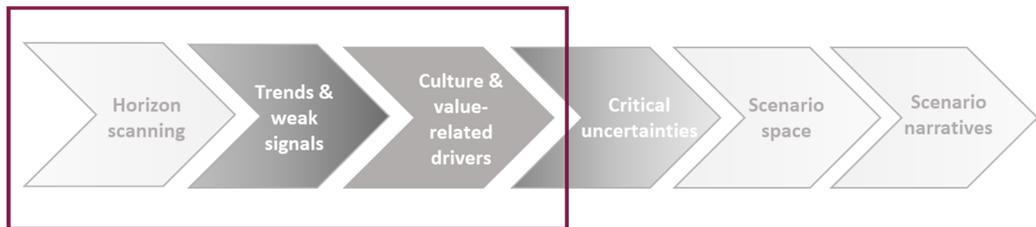


2 INTRODUCTION

5(%\$/\$1&(LV DQ RSHQ GHOLEHUDWLYHQURDWDERQQRBBWILQDHD
 YDOLGDWLRQRI D QHZ WUDQVSRUW \$DFKDGXIPHUH7IHOHFMVHLQF
 SXVKHV IRU D PRUH HIIHFWLYH SRDQXHUVDQLRRAQ\RIWV
 FRQVLGHUHG LQ WUDQVSRUW \$DFKDGXIPHUH7IHOHFMVHLQF
 PRXQWLQJFRQFHUQVDERXWFOLPDWHFKDQJH

5(%\$/\$1&(PRYHV IURP WKH DVVXPSWLKQWFKDXWHIHWDRBLOH
 LQWKHZRUOGLQRDQXGOLQGWRURKSHXVSVDLQBEHQWVLUQVHRC
 HQYLURQPHQWDOWHUPV)URPDFULWGHFOLYHUHYEORIVRIWQH
 'DOVR LQWKHOLJKWRIWKHUHFHQW829LOSDQGDPYEV
 RYHUWKHIXWXUH DQG D URDGPDS WRGDFHBLHQHDLOVQZKHLVW
 ZLWKWKH DLPWRVWLPXODWH(XURSHDQHSBROLDFQEDBRO
 PHDVXUHVZKLOHPRXURJSDQERBIXQLWIDIVFVDRZBKIQQJH

7KLV'HOLYHUDEOHUHSRUWV RQWKWHQDULROEXWQISVQRJISW
)LJXUHVKRZVWKHRYHODOVHTXHQFHZILWKLWKSIUFDLQWV
 IRUHVLIJKWPHWKRZLWKIKRWLJRWDFVQWQJWQHGQHQGDWLY
 WKH5(%\$/\$1&(VFHQDQVRLWKVGHILUVVWKUHVWHSV



)LJXUH 7KHVFHQDULREXLOGLQJSURFHVV

\$YDULHW\RIIRUHVLIJKWVWXGLHVWHDYHWHRIQJSDURULHWRKX
 G\QDPLFVRIWUDQVSRUWDFKDGXIPHUH7IHOHFMVHLQFJRLQJ((
 DWODQ\RIWKHVH SURMHFWVIRFXVSRURDULHQRQVRIQH
 VSHFLILF WUDQVSRUWVHFWRUV7KHVRKJHLJRWQDUIRFXQGRHQ
 DQRYHODQG GHSHU DWWHQWLRQVFRVRLKHFVFKDWWXSLODDQ
 FROOHFWLYH DQG LQGLYLGXDO PRELWDW\FKQREOHGLQGP

¹ See for instance:

- [Home - Intend Project \(intend-project.eu\)](http://intend-project.eu)
- <file:///C:/Users/ADMINI~1/AppData/Local/Temp/Future-Transport-UK.pdf>
- https://www.izt.de/en/topics/view/project/global_foresight_transport_under2/
- <https://www.mobility4eu.eu/>
- <https://www.adlittle.com/en/insights/report/future-mobility-post-covid>
- <http://www.mind-sets.eu/>
- <https://home.kpmg/uk/en/home/campaigns/2019/09/mobility-2030-future-of-mobility.html>
- <https://www.waterborne.eu/projects/coordination-projects/steerer/>

² 'European urban mobility 2050: A horizon scanning project' - Foresight on Demand consortium



This project has received funding from the European Union's Horizon 2020 research and innovation program under the grant agreement No. 101007019

FKRLFHV DQG WUDYHO EHKDYLRXUV RQ WKH RQWKRRI G R PUDQGV V XG F
DQG LQQRYDWLYH VHUYLFHV RQ WKH VXSSO\ VLGH

7KLV KDV SURPSWHG WKH GHYHORSPHQWH RWKHQ³ DGGGWWRQ
H[SORUDWLRQ RI WUHQGV DQG ZHDNFHV JLDWV WKKH WGGHQLWYH
RI FXOWXUDO DQG YDOXH EDVHG IDFWREUHQWV WXBK IWHFWV
VLJQDOV

\$FFRUGLQJO\ WKH FULWLFDO XQFGLQDWLQW LQVW KDWHSVO
GHYLVVLRQ D PHDQLQJIXO IUDPHZRUN RHOHFWDGUDRREXLOGGL
WKDW H[SOLFLO\ SRLQW WR EDVLFYDREXHOV WQFKRFXWV X
RULHQDWLRQV

7KH IROORZLQJ FKDSWHUV GHVFULEH DQ DBSHRQFW DLOR SW
IRU HDFK VWHS DQG WKH PDLQ ILQGLQJV

3 OVERVIEW OF TRENDS AND WEAK SIGNALS



7KH VFDQQHG VRXUFHV LQFOXGH

- 5HFHQW OLWHUDWXUH RQ WUDQVSRQWFDGGLRRELOLW\
- 3UHVV DQG PHGLD DUWLFOHV
- 6WDWHPHQWV IURP H[SHUWV DQG RSLQLRQ OHDGHUV

\$ OLWV RI WKH PDLQ UH Annex 1 FHV LV SURYLGHG LQ

\$OWKRJK PRV RI WKH WUHQGV DQG VQJQDOV HPHURXQG
XOWLPDWHO\ EHDU VRPH GHJUHH RI UHODWLYHQHQ DRPLFFXODV
VKRUWHU VHW RI LWHPV ZDV WKHQ UHQW DDFW MGOXRUE QK
UHOHYDQFH LV FRQVLGHUHG ERWK GLUHFV DQG KLJKO\ FKD

7DEOH EHORZ SUHWHG WUWV DQG FQHN WKHQ HORU IODLQ
LQ WKH WUDQVSRUW DQG PRELOLWUWHFWV UQDWV IHO W KXWOD
WR DIIHFV PRELOLW\ FKRLFHV EXW UNIOHFQDGV RDLGH UUSKHF
LQ PDLQ FDWHJRULHV HDFK FRUHV SVKQ IPRE MORL W\ EFDXVW

- ✓ /LIHVW\OHV
- ✓ 7UDYHO KDELWV
- ✓ 0RGDO FKRLFHV
- ✓ 9HKLFOHV DQG V\VVHPV



- ✓ 7KH YLVLRQ RI WKH FLW\
- ✓ 6RFLDO LQWHUDEFWLRQV

7KHHVH GLPHQVLRQV DUH QRW PHDQW WRI WHUHQHG DV D G HWILQQ
 EXW UDWKHU WR KHOS RUJDQLJLQJ D QLGQ BK DUKDFW HDJ LE DQD
 YDULHW\ GLYHUVLW\ LV DFKLHYHG

,Q DGGLWLRQ WR WKH VKRUW GHVFUHSWLRQV HSEJRYV GHG HIR
 DFFRUGLQJ WR WKH ZHODPNQRZQ 3)16JXUH EHZ



Figure 2 - The PESTLE approach

7UHQQV VLJQDOV DUH VKRZQ ZLWK D 3GRLVLDQ QW D3Q R D J ZILV
 3VHFRQGDU\ RQHV ORZHU FDVH [UHWGHVSWIDQ JE MWK ZHRHQV H
 SROLF\ DQG HFRQRP\ WHFKQRORJ\ D QHG 3H Q7/4 UFRQFHUQW HH MW
 FRQVLVWHQW ZLWK WKH RYHUDO OGLRHFQWL RQ 15W 14 \$ Q \$
 UHSUHVHQWHG IRFODLFZ HDQ 6\ /WJDO3GLPHQVLRQV



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TABLE1: Trends and Signals from literature review, press and media

Dimension	Trends and Signals	Description	P E S T L E				
Lifestyles	8UEDQ H[RGXV \RXQJ JHW DZD\ IURP FLWLH	, Q DGGLWLRQ WR DQ XQFRQWURYHUVD]D WLLRQ Q QWRD WKHUH LV DOVR D P R YHWRHXUVE EQ FNU WBRVSUHLVYHQ HER WIKR DQG D VXUJH LQ KRPHZRUNLQJ VWHPPPLQJXIWERPQWGH Q D HVSHFLDOO\ WKH \RXQJHU JHQHUDWLIRQV RD UJK WDHG LDQ OLYLQJ DV DQ DOWHUQDWLYH WR WKHQWUWHYQHZR DQG	[;			
	3RO\WRS LF OLYLQJ LV	3RO\WRS LF OLYLQJ R DQGL WQ WHE VLRFDL WWDVD BMDHQB DVOR E QRZ DUH QRWDEO\ DFFHOHUDWLQJ DQ HL QVZRH VLRE UHX GXH WR GLYRUFH DQG FRLOGW HXV E ARUK RUFH WRIG ZR IR UHDVRQV ZKLFK LQWHQVLILHV PRYH DQWV WR DQG IUI		;	[
	)OH[LEOH UHPRWH ZR	\$V DFFHQWDXWHG E\ WKH SUHVXUH WR'ZRUNPISORP\HKRV DV HPSOR\HHV KDYH JDLQH G H[SHULHQFHNIURB QHZ RDWH WR RUJDQL]H ZRUNP RUKH WOHZLEDOEWR FMR ZUR RNILBRPKRW FRPELQH SHUVRQD ONW HUYFHOD DQG GZRRGO IRIUL WHUD G QW FRPPXLQJ ZLOO GLPLQLVK		;	[[
	%XVLQHVV DQG ODFN EHFRPH D VWDWXV V\	%HLQJ EXV\ OLYLQJ DYKWHFWKH QGIHQDQG KDSHQRXD BQH WR			;		
	&RQVXPSWLRQ DQG V DUH LQ FRQWLQXRXV	\$Q\WKLQJ \$Q\WLPH \$Q\ZKHU MVEUR E IRO XFRLRYHQ L E QD WKHLU OLYHV 2Q RQ QWK MKURLSHL QJX U WKKHU JIERHVM D GOR F WKH &29,' SDQGHPLF V7KQ VFR QK RQH E OXKHQLFHU DZLOOVK YDOXH FKDLQ LQFOXGLQJ WUDQVSRUWDWLQ	[;			
	,QFUHDVLQJ DZDUHQH HQYLURQPHQWDO LPS LQIOXHGHV GHFLVLR EX\ ORFDOO\	&RQVXPHU DUH EHFRPLQJ PRUH DZDUHWR RMM H DQVSLRU UHIOHFWHG LQ D IRQDQJHS WLRCK KIDIE LFWW R7EKA Q R Q D Q LF SKHQRPQRQ ZKLFK EHFDPH PFK VWURQ \$M D ZLHMX QW WHQG WR UHO\ OHVV RQ JOREDO WLDHQHQ SBFDHUSU QGX μ/RFDOLVP LV IRUHFDVW WR EH D PDMRLIK VS ROHVD S DQRF HYHQ GLVUXSWLRQV LQ VXSSO\ FKDLQV LQ WKH IXWXUH	[;			
Travel habits	5HGXFWRQV LQ GDLO ORQJ GLVWDQFH GRPH REVHUYHG DPRQJ WKH	7KH LQFUHDVHG μKLFW XLDVY HDUW IPRQJ HZS HPSRQH \RXQ WKHUH DUH VRPH LQRELLFDLWL RQGWK DQ HLQ FXUHH DPE RQ J Q B X Q R FLDXCHGV ZILWK OHVV WUDYHO \$Q RFW WHUD YHCS HFRM LV WKH JUDGXDO OM SHUK RGLQK RW WKH SRVQ DGROHVFHQ DRXQFLDWHG ZLWK OLPLWHG HFRQREQB WHVDRXIOFH R SRVWHQWLQV\ UHVWULFV GHYHORSPHQW DOVSRQSBH QWRKIS SRDYLVLDOODREDDQGDWLQV JHQHUDOO\					

Dimension	Trends and Signals	Description	P	E	S	T	L	E
		PHDQLQJ OHVV VWUFIRQW WULDFHQ WSDVSWDQHQ W KDIOR CSU B ERW DGFH PRELOLWA RI \RXQJ DGXOWV						
	/HLVXUH WUDYHO UHPD	.H\ GULYHUV IRU PDVV WRXULVP ZLOOORHJRDLYHQRVQRKR VLSPHR SOB WHFKQR ZKR UHJXODUO\ FRQVQPHQRHUQEHK B QPHQ WDLROA 1UZKHQVGHU LW V ZKDW WKH\ EX\ ZKHWKHUUWZKH\WJHFB OLWRP LFJK W DEVIR XGIGHWKDW WKH\ DFWXDOO\ WHFBSR WDHUQ OLUR QPHHQ WDKH IEJHHGHYHWQDOW QDRO PDO 'WRXULVWV 7KH\ GR VXIIHU VRPHLQWQGE XW QIFR JHUWKGXHH VWR WVKUHD YHRO WKH\ FRQWLQXH WR IO\						
	/HLVXUH WUDYHO LV ER SDQGHPLF	\$V WKH ZRUVW HIIHFWV RI WKH &29,' RSDCSRHMF VME EVUPRYHMO LFCPLFDJW EDFN?ZLWK DJYHQJHDQR RNDWFS HURSFQ QHFW WHLS DWURQQH ZRU UHYLVLVW UHOLDEOH IDYRULWHWRDOW NZDVI ZURR WKKHFRJQKROPHV \$ QF.LQVH\ VXUYH\ UHYHDOV WHDYHFORLGG RRR VHGWRVRQH G HVSRLQGWQWV LQ ILUVW SODFH GLQLQJ RXW						
	%XVLQHV V WUDYHO LV GHFOLQH	&RPSDQLHV DUH H\SHFWWKQW WIRLNCHRQ DQWL SHDUQ WCHDGRBJ WR D 3VWUXFWXUDO' GHFOLQH RI EHWZHHQ HIBQSWKHVBRKKG IURP E SQQWUPXFWXKBOH ZLW DQBHHDIHFRQJUDRQ KQEG LGHBRNG FRUSRUDWH VSHQGLQJ RQ WUDYHO)RU WKH OXFWDHVEYHJEXWL QHKVH DW'FYRPH W HURRQW FXWEDFNV LQ LQWHUQDO PHHWLQJV 2 ZKSLFKDADH MW XSYHFX3KZKLOHRI FR WULSV WR PHHW FXVWRPHUV DUH PRUH OLNHO\ WR EH PDLQWDLQHG						
Modal choices	8VDJH RI ELNHV DV PH WUDQVSRUW LV JURZL GXH WR WKH SDQGHPL	&\FOLQJ LV JDLQLQJ PRPHQWXP LQ PDSH FSDWHLHDMU B ULQXFC ORRNLQJ IRU JUHHQHU KHDOWKLHU QPRGLHWLRV W X B Q VDS \$PVWHUGDP DQG &RSHQKDJHQ FRQWLQXJHVFRHLFQHYH D Q GL H\SDQVLRQ DQG LPSUB YCHPHQDVG R H [WKHY ZBYH V\ BQVQJ DQ RI WUDQVSRUW ZLW DJ IR YHYUWUW K HF Q H [SK EGHLFD Q/H DZLVS R ZDONLQJ UHSUHVHQWLQJ D WRWDO RILQ FRWDBO WHULVSX &\FOLQJ LV SUHGLIFVHDG JHRV W QIQRU MDEVHU DWUQ S FEGHUF B H &RYLG EURXJKW DELQFW HD G H D RD EWWFA F SRQWQHW R MQKH +HLJKWHQHG DQ[LHW\ RYHU SXEOLF MWUBQWIS FKUW DAWHLDRC DQG PRUH DUH FKRRRILQWKWRP RVW W EQM ILQ ILRU P O HRD CPLQEJ 3ELNH ERRP'						DV HQQ VKDUL QG ZLW LQ H[HG



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Dimension	Trends and Signals	Description	P E S T L E					
	3HR SOH LV H[SHFWHG H VFRRWHUV PRUH IU	6FRRWHU XVHUV DUH VSHQGLQJ PRUH ZWUPEHERIORWKHWKH KLW 7LHU KDV VHHQ D SHU FHQVRQO RVEDLS V QVDUNHQ/ R DUH DOPRVW GRXEO&RDLVGO RCRJZDV SLQXWHVZ RQOBY/HLB VHHLQJ ULGHV LQ (XSRSHFWG DWO BQHIFR RQ HDY HFDP SHDQL UHSRUWLQJ PRUH MROG QHQGLQWDLQW LQ VTKLHQWLDORQQ UZH ORQJHU ULGH WLPV 2 VXJJHVWV WKDWR WFRVLOHVV WKB VLJKWVHHLQJ DW WKH PRPHQW \$ VXUYARIESDQ(IDX QG KLJKHU VKDUH RI SHRSOH LQ FLWLHMRLXQF QDG WQKH% HJSC VFRRWHUV PRUH IUHTXHQWO\ WKDQ EHIRUH WKH YLUXV						WKH\ WHUV
	7KH XVH RI SXEOLF W GHFOLQLQJ GXH WR W	&RQFHUQV RYHU LQIFWLRQ PDNHV SHRSOHV SXHUV\ BE ZRUOG HPHUJHV IURP WKH FRURQDYLUPHVDSDVQGHDFSVI FRXOG ULVH OHDSRQWBSWEQDFDW HQQWHDV DLQVW IDQKWLQ LQFUHDVLQJ WKHRQLVQVFRQJSDRQW RQ SUHFRQDQPD \$DWR FLWLHV					[ ; [	OLF LV DQG
	7KH UROH RI WKH FDU	7KHUH DUH HYLGHQFHV WKDW VKRZ WKFRVGMKIRIQMHGQIV UHSODFHG E\ D VKDUHG PRELOLW\ FXRQWXWR ZEKHXVHHGDI EDLV DQG QR ORQJHU DV SURSHUW\ QRRSRVQB ERKQHIS FDU RZQHUVKLS LV VEHFRPLQHVLQIEB BXVEHQWR DQGOVKQ D GULYLQJ OLFHQSSILQ GRVQEQR ZHURHHDVZ KFWKRW R \RXQJHU JHQHUDWLRQXQWYH VEKIFRPHH DWIRBELQGLMSHZLQ WKH HQYLURQPHQWDO VHQVLWLYLW\ DRQQJRLQSRQSVHR QHZ GLJLWDO DQGLDHWVHLFRDQVLQVQVZLQDFWDMH BHH RZQHG PRGHV RI WUDQVSRUW					[ ; [	RZQHG VWR LODE J HU FDO RI DU\
	1LJKW WUDLQV PDNH I DFURVV (XURSH	1LJKW WUDLQV DUH RQ WKH ULVH DJDLQRI 5DLQDDQW WK RI LPSRUWDQW QHQQLFJKWRWVDFRQFIRLQDQZALWVKUINUHWKHQ D QHZ VOHHS HQG WWRDQZHLWZRDNHRI SODVZHLQWROLV DFURVV (XURSH LQFOXGLQJ 3UDJXH QHJQDQDFRQ\$P)V VWDUW XS DLPV WIRDWQW KURRAPHDDVDFWRV (XFLRSLHVLQF (GLQEXUJK IURP					[; [HQ HORQ



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Dimension	Trends and Signals	Description	P E S T L E
	1HZ PRELOLW\ VHUYLFHV DUH RQ WKH ULVH	5HFHQW GHYHORSPH, QWVH UQHW BV TKKLDSSORLFDWIPDOW DORQJ ZLWK HPHUJLQJ WHFKQROROIHMV DQJHH UR IDQZKHZDFRCE LQQRVY D WQXWLRQV EDVHG RQ WKH VKDULQJ HFRQRP\ WR PHHW YKHURSDVDQ VFKDUDJG QWLRQDOW\OHV RI SOD\HUV VXFK DV VQGH VWWR FRRWLVY ER QXFHJ FD UWX VEX VSDOVR DFW DV PRELOLW\ SURYLGHU W WDDGV WKHWS XRB SDKCH ER XRGHWLVW RI WKH; μWUDGLWLRQDO TISHUE EL FE WFDPLQSIROVD R DQ WURVKL S1 PRGHQV DUH VHLQJ WKH OLJKW VXFK DV 9HKLFOH RQ 'HFD QFD U9 R KD U QFD D QDQD P JFDUR UHQWD PRELOLW\ VHUYLFHV' H R D Q GR EDRO L WLQF CGX G HQ S RGHPLDYH WUDQVSRUW ULGH KDLQJ DQG ULGH VKDULQJ	
Vehicles and systems	(OHFWULILFDWLRQ FRODORRQDQDW EHPLOQLQJQH WQHSDVULRWLXSVI ZB UNLQJ P REQL OHWV VFRUQLQDF WQGDJX WRKLFRRXV GULYLQJ [DXWRPDWLRQ DUH WKHVSULRWLXSVI ZB UNLQJ P REQL OHWV VFRUQLQDF WQGDJX WRKLFRRXV GULYLQJ [LQGXVWU\ SOD\HUV	, QGXVWU\ SOD\HUV DUH DFFHOHUDWLRQ R MKHLQSRHYHWRIR QXDWWRWKWLYH WHFKQ GHYHORS QHZ FRQFHSWV RI HOHFWULFDUFRQGREWOLGWIDYWRQLQFRXVWU DQG VK KDV DWWUDFWHG FRUH WKDQ ELQVL SD FLDG HQZLHWV D E Q W RYHU WKH OD FRODORRQDQDW EHPLOQLQJQH WQHSDVULRWLXSVI ZB UNLQJ P REQL OHWV VFRUQLQDF WQGDJX WRKLFRRXV GULYLQJ [WHFKQRORJ\ 6XFK WHFKQRORJ\ LQQRYD VDIQDQ F DZLH Q KHFOV SU L F G X F D U H G F R V PRELOLW\ D UHDOZ Q D Q H D Q F D W L Y K H W W B I O H H F W W Q F V D Q G V K D U H G P R E L O L W \ Q H H G D K D U P R Q L J H G X U E D Q U H J X O D W W R L Q E R Q R A U L G Y H H U W R R V S U R W L Q H Q W L K W L B Q J M R HOHFWULF PRELOLW\	
	, R7 DQG 9 ; SOD\ D FUXF L D O U R O H L Q W K H W U D Q V S R U W V I V W H	: LUHOHV FRPPXQLFDWLRQLWLEDOU SHOHQWLNHHISERV\WKHP RI YHKLFOHV LQIUDVWUXFWXUH DQG SHGHVWULDQQLRQVHQFYH QZKDFVHV ZDS SHLQJH DVL DURXQG WKHP SUHGFWRZKDSSHQ DERPHDFKLRDW HUZLDQK WDNH SRRDFWLYH VDIHW\ QFBVXUDG WDRHHQKDDXPEHUG RIFD FFKLGHQWV DQG SROOXWLRQ , R7 D Q G 9 S H U I R E M Q W R J Q H Y H O D S P H Q W U R D Q V S R U W V I V W H P V U H P R W H I O H H W P D Q D R F H Q W L Y D Q W R R P R E F O I W D D Q D V R Q X W L R Q V D Q G P D Q R W K H U V P D L W \ L Q R V H W L R Q V	
	\$LUOLQH FRPSDQLHV EFRPHWJUDIGQRXQFHG LW QRZ LQFOXGHJK W VWHLDFVKHGH X O M P L D Q R Q L Q I O FRQFHUQH)RU DQ\ RQH ZKR QHHV UDRYH DDIQWW DQVGLDQ WQHLQZDLWRJR *RRJOH HFRPHWJUDIGQRXQFHG LW QRZ LQFOXGHJK W VWHLDFVKHGH X O M P L D Q R Q L Q I O ERRNLQJ SDJHV , Q U D G U W E L R Q U W F H V U V F X D Q D R Z Q R X W H E \ H P L V V L R Q D Q G L I W U D L Q V D K H H D Q V H S O H F R A C G Q Z A X W K R V R I R D Q H Z V Q	



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Dimension	Trends and Signals	Description	P	E	S	T	L	E
	(PHUJLQJ DZDUHQHV UDQJH RI VDIHW\ DQG	\$V QHZ WUDQVSRUW PRGHV DQG VHUZLDOVEZLORSRHWQWUFRFRWVBU LW RI WKH ZLGH KRZ WKH FDQ EH VDIHW RQWKH WUDQVSRUW HUHXPXULW WKUHDWV SURWHFWHG						
	4XHVWLRQLQJ WKH VS	0RYLQJ IURP \$ WR %GRQVLLORQ R WKH US HVRSPH UHMLQJWH WKH FDQ HQMR\ HWK 3 BUWVWVWKHWLFV FRV KHUEH VQ GRV K DWRQ CFKRUEMHLQ ERW LQGLYLGXDO WLPH VDYHG EXW E\ VRFLHWDO EHQHILWV						



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4 EXPLORATORY CONVERSATIONS AND MAIN OUTCOMES



\$V SUHYLRXVO\ PHQWLRQHG WKH VSHW KILFOI FDOXG\ YRD 65X % \$E \$
GHWHUPLQDQWV FDOOV IRU D WUHQG WL JQDROH VGHQVLRQLQ
VFDQQQLQJ RI ³WUDGLWLRQDO´ PRELOLVV IHRUFXIWHBI VFR \$ORUW
FRQYHUVDWLRQV ZDV VWDJHG ZLWK W[SHUWYRWBKBIWHQDQ RI
GHOYLQJ LQWR WKH GHSHU URRWVSRIVPREIL WIKMVFXHQWQBHD
FRQYHUVDWLRQV ZDV WR YDOLGDWH DQBSHPBQW FLPSROHPBIQV
WKH WUHQGV DQG VLJQDOV FROOHKWHUIG] FDOQ FDOODQLVLI LHVGH
RUGHU WR HQVXUH JRRG WKHPDWLRQFRYUW D WLRQDQ QGD
VHVVLRQ IROORZHGDQ LQGLFDWLYH GFZLLSW WKBWG ZD FXWK
EHIRUHKDQG 7KH LQGLFDWL Annex 2 EULSWV DUH SURYLGHG LQ

7KH LQYLWHG GLVFXVVDQWV FRQWULEXWHG L]WQJ WRKH WKQ
SKLORVRSKLFDO DQG FXOWXUDO EDFN GHRLS\ DJJLSDWV ZKFR
H[SHUWV DVVLVWHG LQ %LQ \$L & KW R QDRLS RXVME D HG KJXQH L
WKH FXUUHQW QDUWRWLDYFKDW R SIE DZIGG WKEH D W W Q H URQ DUH
UREXVW FKDQJH IDFWRUV WKDW FDQ GHVSOISHPGQFW ZZLOF
IDYRXUH LQ WKH ORQJ WHUP 7KXV 5 (R \$U \$Y B O XHL V EMD LH
DQG DVSLUDWLRQV ZLOO DIIHFW WKH LGFRKHORRBRQYGVVRIOD
WHFKQRORJLFDQ SURHGHOVYDQORSPISBWRXUZLLOQUTDLQVGLRQO
DQG EHOLHIV DQG SURPSW FXOWXUDO FKDQJH

7KH ³([SORUDWLYH FRQYHUVDWLRQV HUGHVFKHQWRHEIGORW\ IRYHW
WKHPHV ZKLFK DUH NH\ LQ GHILQLQJ RXU IXWXUH PRELOLV

\$XWRPDWHG YHKLFOHV

'LJLWDOLVDWLRQ

7RZDUGV JUHHQHU WUDQVSRUW FKRLFHV

7KH IXWXUH UROH RI WKH FDU

/LYLQJ ZRUNLQJ DQG VKRSSLQJ SDWWHUQV

'LDORJXH \$XWRPDWHG YHKLFOHV

Discussants: *KDGLU 3RXUKDVKHP 8QLYHUVLW\ RI äLOLQD DQG
3ROLWHFQLFR GL 7RULQR

%%&. *5281'

\$XWRPDWHG YHKLFOFHW \$9W R UHH GHSHV H VSHRISOLFH DORPRQ KW U
RI GULYLQJ DQG DOORZ GRLQJ PXOWHSGRPH VDOGNFRQWUWKH D
WZR PDMRU FRQFHSWRV SWKDWZKFRHFRLQWLG HUHLOLJD \$IFHR SPOH
DXWRPDWLRQ 3DVVLYLW\ FDQ HDVLOH [SHUWVQFFHLBW HGH WGR
RU WR ORVV RI FRQWURO 2QH RI WKH IRRVPHHQ] QGRFRAPSGH QV
IRU WKLV GLVWUXVW LV WKH DOOHJH BPLQFCHDQMLBRQRDQ
EHQHILWV RI GULYHUOHVV YHKLFOHV FGPFRBLWQH\ E7KWK



LQQRYDWLYH GXR PLJKW EHFRPH D VXQFWKWI XQ QWRPDLR W MF
SDUWQHUVKLS FRXOG KLQGHU WKHLU GLIIXVLRQ

8QGHU WKH DVVXPSWLRQ WKDW D FXQDWXWIDYCH VKGLRS WLVROHRI
5(%\$/\$1&(KDV LGHQWLILHG DPRQJ RWKXQW XWDODDQSWYDF
GULYHQ DWLWXGHV WKDW LV OLNKOH MKRV XODH BII\$QG DEPH
WKHLU WHFKQRORJLFDO SHUIRUPDQFH

-)H DU RI LQQRYDWLRQ
-)H DU RI SULYDF\ EUHDFKHV
-)H DU RI ORVLQJ FRQWURO
- ,PSRYHULVKPHQW RI WKH KXPdq GLPHQVLRQ RI WKH W
- (WKLFDO LVVXH

0DQ\ TXHVWLRQV DULVH DERXW ZKHWKMBUD/QIGQKRIZGMBI DWGGL
SHRSOH WRZDUGV FXOWXUDO VKLIWV RWK\$9W BRXPHG IHDFUOW
IRUFHIXO SROLFLHV RU QXGJHV FDQ GLQLWLKDW HG D QJOH S\$H
³HWKLFDO VWDWH´

7KH LPSDFW RI YHKLFOH DXWRPDWLRQ/ FXQVHUFWIDQQLQ)FXQXW
LVRODWLRQ DQG DPHHQXV IHRQ F\$9Q RWKFX USDHQQWCR QR ERMH W
HIIHFWV RI &RYLG RQ PRELQW\ FWRQWHHG FZIKHWK BH WKOIL
WUDQVLWRU\ RU SHUPDQHGW

5HJDUGLQJ WKH WHFWQRORJLFDO DVVXPSWLV SBIBU VZIK WQ DFR QVR V
WHFKQRORJLFDOO\ LQQRYDWLYH VROXOV LFKQW DR Q DVERLQDQO I
IDFW PDLQO\ SDWFKLQJ SUREOHPV FUHQWIRQ DEN LRUH YLQW VC
LGHQWLILFDWLRQ RWKWKQRORJLVFDW RULQJMLHFDO QV KQMD GQ WX
VXVWDLQDELOLW\ FXUUHQW SUHYDLQSAHGYDORXW WDXFLQJ
WHFKQRORJLFDO SURJUHVV ³SHU VH´ WSHQXHW XQWVHH WKDW
WHFKQRORJLFDO SURJUHVV ZLOO KDYZK WFRQWHUOLQIWR R SVDZRL
RU DW OHDVW USDUWDLWQ FQVQQRWKHU

- 7R LQFUHDVH VSHHG DQG HIILFLHQF\ FRVW HQUJ\ W
- 7R LQFUHDVH FRPIRUW VDIHW\ DQG TXDOLW\ RI OLIH

7KH \RXQJ JHQHUDWLRQV DUH VKLIWIRQ FULRDLW\ HYDQXHR
WUDQVODWHV LQWR WKH DGRSWLRQ DRUWLFRQRORJLQF DWKHLQ
\$9V

%H\RQG SXUHO\ WHFKQRORJLFDO DWKSHFDWR SRWLRIQURIL
WHFKQRORJLHV \$FFLGHQWV DQG IDWQXIUHVDRIRV HLOQQRULDW
HWKLFDO LVVXH



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ORVW UHOHYDQW DUJXPHQWV WKDW DJRVH GXULQJ WKH GL

Technology

- 7HFKQRORJLHV DUH FUHDWHG IRU GRLSUREXOHLQVHV\$9DGRU (OHFWULF YHKLFOHV DUH MXVW DQ DWRWHPSWDOLWH
- 6FHSWLFLVP WR DGRSW QHZ WHFKQRORQHIV REHFDXV NQRZOHGJH

AV reliability

- 0LVFRQFHSWLRQ DQG LQFRKHUHQFH DFRVLDQWKRWH R
- 5HMHFWRQ WR \$9 QRW UHODWHSRWRELDW\ RIRV UHSURGXFH KXPdq WKLQNLQJ DQG PRWDQPHFKLQRQV
- \$9 LQ SXEOLF WUDQVSRUW LV 2. EXW LQLSIHUHQWH V SHUFHSWLRQV
- 6RFLDOLVDWLRQ FRQYLYLDOLW\ WKDQV PDRNS9 JRF JHQGHU DJH JDS

Privacy and personal data

- 3ULYDF\ LVVXHV ZLWK SHUVRQDO GDWD DQG VKDULQJ V
- 1R GDWD SXEOLFOLQRYDWEQRMDQG UHVHDFK

Governance

- &RQILGHQFH RI WKH SXEOLF LQ SROLF\ PDNHUV
- 3UHVHQWDWLRQ WR WKH SXEOLF RIGRQVLEOH RSWLRQ
- 7DUJHWHG QXGJHV

Aspirational values

- 7KH PRVW LPSRUWDQW WULS RQHDSXUHV RQ 3OHDXUH RI GULYLQJ SUHIHUHQFH IRU GULYLQJ RQH
- ,PSURYHPHQW RI TXDOLW\ RI OLIH YHUVXG RSMQIPRODV DV IDFVV
-)HDU RI ORVV RI FRQWURO
-)HDU WR FKDQJH KDELWV
- 6RFLDO LQFOXVLRQ ZLOO QRW FRPH E\ VKDULQJ



'LDORJXH 'LJLWDOLVDWLRQ

Discussants: %HQMDPLQ 'RFTXLU 2VERUQH &ODUNH DQG ;DYI
ORELOLWpV

%'\$&.*5281'

ORELOLW\ VHUYLFHV ZKHWKHU IRU SDQVHQJHLOLRLU JRFQ G&V
EDVHG VROXWLRQV ZKLFK DUH VXSSRHOHG WRDIHQVUHQGHV WHP
HQYLURQPHQWDO SHUIRUPDQFH RI WKHQVUXDQF/KSROOHQJHVG
SHUVSHFWLYH GRHFFRQVWDEWLDQVORLPSQIGDQGRQLVUXFK
ORVV RI SULYDF\ DFGHUIHQWHUDQF WIRUQRZSSRUWQXQLQMITKD
WKDW OHDYH VRPH SHRSOH EHKLQG

3XUVXLQJ WKH GLJLWDO DQG JUHHQ WWDQWILWLRLQ' VKNV
EHFRPH D ZLGHVSUHDG \$ROLWAKFDQW WDDUHV SRUHW RYH
V\QHUJLHV EHWZHHQ WKH GLJLWDOUBDQJHW DAVRU SIRMHQ
FKDOOHQJHV LQ FRPELQLQJ WKH WZR LGHQWLRLUHQV KHWHR
HYHQWXDO WUDGHRIIV

:KHQ LW FRPHV WR OHYHUDJLQJ LQGLYLQV XDR SDQFPFRD
VXVWDLQDEOH PRELOLW\ WZR DSSUREXFKHG/ XSDRQ EVMKIR ODIR
RI GLJLWDO VROXWLRQV DQG WKH RFRQFHUULQVWRQGHDOZD BQ

6PDUW ZRUNLQJ RQ OLQH VKRSSLQJ DEQGH BWEKHGL JHWOLOHJD
DUH RIWHQ SURPRWHG DV GLUHFWO\ XLQVWLLQXPHLOW DQ DQG
LQFUHDVHG VDIHW\ DQG KLJKHU HFRQRPWKLMILFLDGHFIOXVRI
XQGHVLUHGFROVMTXHXHQFLQDWDQFH

- 'RHV WKH HDVH RI XVH EURXJKW LQIIEFXLQGHVHQIHFVH
DQG ERRVW³QRQHVVHQWLDQ' PRELOLW\"
- -XVW LQ WLPH SUDFWLFHV RSWLPLJH WIKHQNHLWIVISDFMK
LQGXVWU\ EXW LQFUHDVH WKH QXPEHU RI WULSV DQG
- ORUH JHQHUDOO\ GRHV WKH GLJLWDOHQJUDVSDRQIRUQ
LQHYLWDEO\ OHDG VRIHQPHQXFDQRLQFJHUVH LQ WRQ
- ,V WKHUH VXFK D WKLQJ DV³JRRG YV EDG HIILFLHQF\'

&RYLG KDV VLJQLILFDQWO\ FKDQJHREIRELQWOLGBWWRSS
DQG SDVVHQJHUV VDUW ZRUNLQJ 7XWVRIQZHEXWHWQDHEOHIG
FHUWDLQW\ ZKHWKHZLQVKEVHVFXK/DQJHQVIG IZKHXQSDQGHFRPLFU
3HRSOH KDYH GHYHORSHG D IHDU RI FBWZGHHPVSDHFSIDUHQV
JLYH XS WKH VRFLDO EHQHILWV RI SKOVL EDHOKPHDEGLQJWW RZD
DQ RYHUDOO OHVV FRQYLYLDO OLIH

3ULYDF\ FRQFHUQV DULVH IURP WKH WEDWRDWHRDEWR WRD
EHQHILW IURP GLJLWDO PRELOLW\ VHQJHULHG RBFH%SDH%PRJK



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- ,QFOXVLRQ EHIRUH GLJLWDOLVDWLRQ DQG QRW EHFDX
- *DWHNHSHUV QXGJLQJ QRW VXIILFLHQW
- *URXS QHHGV DQG GLYHUVLW\ QHHGV
- /RFDO EHQHILWV RYHURDGRZWHG QDQNLWLFRUHF\DGQWW GLVWDQFH WUDYHOV

Aspirational values

- 8QGHUVWDQGLQJ WKH VWDNHV DZDUHQHVV
- 'LYHUVLW\ RIJRSRVRQQ HRSW RXW
- 8VDEOH WLPH
- ³, ZDQW WR PDVWHU P\ PRELWL\
-)URP -,7 WR DV IDVWQDVISRFLRQSDQLWV WR FRQVXPHU

'LDORJXH 7RZDUGV JUHHQHU WUDQVSRUW FKRLFHV

Discussants: \$QGUHX 8OLHG (UVLOLD)RXQGDWLRQ RDQG 5RE \$GYDQFHG 6WXGLHV ,+6

%%\$&.*5281'

,Q (XURSH VLJQV WRZDUGS RUMH QIRL FHQGXVHV HPHV JRLQNLG FOHDQHU YHKLFOHV LQFUHDVLQJO\ DPYRELODLEVOH FDQGHG SHIWIR DQG JRYHUQPHQW SODWRDQ WKSURRUXW DQWOD QSKDUG QJWRDMDWE DOVR DW WKH ORFDO OHYHO WKURXJK W&EFHVHGDHQGJQ LQIUDVWUXFWXUH 7KH TXHVWLRQ WRYEM DQM ZHQJ HGF WVSZKLHP SXVKHG IRUZDUG E\ DFKDQJLQJ VRFLHWBQVD\$W BWWXGHV WRQDUG SXUVXDQFH RI D KHDOWKLHU OLHZ HIIHQIRWL YHVZ R/XORG Q E JUHHQ PRELWL\ WUDQVLWLRQ ZLWK R X WL W L P B R UD Q GL PVR EL XVHUV

*UDVVURRWV LQLWLDWRYH)XWOLNH'DQLHB\$RQDMLDQW UROH LG HQYLURQPHQWDO DQG KHDOWK FRQFHRQDYO ZMKLFW VQ7R XZKQ H[WHQW SHR SOH DUH UHDOO\H G R FL D H D Q E \ HQYLURQPHQWDO EHQHILWV RI JUHHQH FKRR LFXDVLORV RFLD W WKDW GULYHV WKHPWL ZLVRP E W KLFQJHV DQVXILQH W R RI UGHROYH U VXFFHVV RI VXFK LQLWLDWLYHV PLJKWL QDVCHURJ HFRQJUDUWLLRX GLIIHUHQFHV LQ DZDUHQHVV DQG PRWLYDWLRQ

3DUDGLJP FKDQJHV DUH YHU\ VORZ H BZQHYZH PRELLOZ W\ FXOWXUH EDVHG RQ VWUXFWXUDO FKHQWKVUZGHVPHQXGOGLD SROLFLHV WRGD\ LQ SODFH VXFK DW XDFH HFKD WJHLQXJO DWWLDRQ ± ZLOO EH QR ORQJHU QHFHVVDU\

7KH VKLIW WRZDUGV ³DFWLYH WUDYHOHQ LWUDQVLMR B QF R\$ WUDYHO LV XVXDOO\ GHILQHG DV WUDYH ZD V N D Q J U H T F X L Q H V



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JHQHUDWLQJ VRFLDO EHQHILWV LQ ERW 6 (H%\$Y\$ U8(QDPLFQWMD R
FRPSUHKHQG WKH GHSWK RI WKH FKD QJ B V H Q H Y D X L U H G D V Q F P
D YLVLEOH PRYH WR DFWLYH WUDYHO V2 QDQ KEH RLVQK E M H K Q F Q H
WKH H[WHQW WR ZKLFK WKH WUDYHO F D N L Q J D O O Z E B F W R L F
GLUHFWRQ VSHHG VWRSV FKD S J H L V D R W H S E D Q V H D W F H W K Q
WKDW DOORZ PD[LPXP 3DJHQF\` DQG FRHQ V E W O Y H K H F H I Q H D I O V I
DGYHQW RI PLFURPRELQW\ ZKLFK F R Q E P B U V X E R W W L V Q W O H
DOVR D VXEVWLWXWH IRU SK\VLFDQOQ H Z F W L W Y H Q P R V G H R Q D R O
EHWZHHQ ERWK PRGHV

*HQQHU LVVXHV DUH DOVR DGGUHVVHG G D V R Q J Q S E U W D W L Q G O U
WKH WUDQVLWLRQ WR JUHHQHU PREZLQW V J H , Q G H R U G S H F L W L K F L
GLIIHUHQFHV"

\$ FRQWHP SRUDU\ GHEDWH FDQQRW RPLWRW K O L W Q I D Q B Q W K I
SODXVLELQW\ WKDW LW \LHOGV VWQ H Z W Q R D P D G H K Z K Y L U R K
VXEVWDQWLDO PRGDQ R D Q H Q W E S F R P V H S L V W W K E J R Z Q W R Q U R
DLU WUDYHO DIWHU &RYLG

- 5LVLQJ DZDUHQHV D Q I R R W S H U L R O V R Y I R F O H Y V W U D H W U D D W L R F
- %XVLQHVV WUDYHOV YV =RRP PHHWLQJV
- %DQ RI GRPHVWLF IOLJKWV ZKHUH DQ DOWHUQDWLYH V
- 1LJKW WUDLQV EDFN LQ IDVKLRQ"

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ORVW UHOHYDQW DUJXPHQWV WKDW D H R V H G X U L Q J W K H G L

Technology

- 5HPRWH WHFKQRORJLHW R D Y V R F Q D O R S D W L Q R Q Q U H Z W
SURMHFWV
- :H DUH QRW LQ FRQJUHCO ZLWKHQ G L Q M H D H Q W W H F K Q R O R J

Active travel

- ,QHTXDOLWLHV D Q G D M R Z W R K H D F W L Y H W U D Y H O
- \$FWLYH PRELQW\ LV JUHDW IRU XSSHU PK G B O H W R E D V
PDMRULW\ , W D R W R R E U H L Q V H U D D O L W L H V
- :DONLQJ IRU VRFLDOLVDWLRQ

Mobility systems

- ,QGXVWU\ SXVK WR Z X V V D L O D E H J H E B G H Q J W K I Z W D U H Q R
- 7UDQVLWLRQ WR HOHFWULFLW\ LV Z D U Q H R V F H G E \ F R
- 0RELQW\ V\ VWHPV KDYH DQ LPPHQVHQ R V S Q U H D Q V L Q D Q
FULWLTXH



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- 6KRUW KDXO DQG FLW\ DHULDO PRELOLW\ ZLOO EHFRP

Governance

- 5HJLPH FKDQJH LV QHFHVVDU\ WR FKDPREHLOWWH« μGH
1HZ UHJLPH OHVV EDVHG RQ FRPPDQG FREDUWOLBQG P
PRUDO HFRQRP\
- 7RS GRZQ LV WKH HQHP\ WRWDOLWDULDQ SDUDGLJP
- 7UDQVLWLRQ RUJDQLVHG ZLWK WKH SHQBOPV IURP OHJ

Society

- 3DUDGLJP FKDWUHHRWO\ VORZ
- ,QHTXDOLWLHV KLGGHQ E\ WKH HQYLURQLHHQWRDQ RWDJ
VROYH DOO SUREOHPV DQG FUHDWH QHZ RQH
- &OHDQ FLUFXODU VXVWDLQDEOH VXEVXHGVDQGHOSHS
DORQH
- 7KHUH LV QR FXOWXUH QDWXUH GLYRKHG5MFRQFHSWXI
- &RYLG 1HZ QRUPDO ZLOO EH YHU\ VLPLODU WR ROG

Gender

- :RPHQ DV LQGLFDWRU RI WUDQVSRUW VHUYLFH TXDOLV
- 7UDQVSRUW DQG SXCEIEH VSYDFOXDWKRGXWQVURQYKIZHQWQ
DQG WKH VHUYLFHV SURYLGHG

Aspirational values

- 9DOXH FKRLFHV DUH PRUH LPSRUWDQW WRKDLQWVFKQI
PRGHV
- (QYLURQPHQWDO FRQVFLRXVQHVV YV LPDJLQDU\

'LDORJXH 7KH IXWXUH UROH RI WKH FDU

Discussants -HQV 6FKDGH 7HFKQLVFKH 8QLYHUVLWDHW 'UH
*|VVOLQJ /XQG 8QLYHUVLW\

%'\$&.*5281'

3ULYDWH FDU XVH LV UHFRJQLJHG DVS DFDWYVQRQVHQQLIWLIRQDM
KHDOWK DQG VDIHW\ ,W JHQHUDWHVQFVRQXIHVEVLRQV FBRM
DIIHFVW TXDOLW\ QI \$LFHVLQWHJXPHQDWRQ IRLQVLMULDDFWLYH
DQG PLFURPRELOLW\ DQG WR PDNH SDEGUFVWUDBRFRUWVRF
FRQFHUQV %XW SULYDWH FDU RZQHUMQLSXDQFXQWIXULV GPH
VDOHV NHHS JURZLQJ 5(%\$/\$1&(H[SORUFWLWKHFRQJLUXVLWQJF
UDGLFDO VKLIW DZD\ IURP FDUV DQGHWSUHRFRHWYGDQHRUQVH
DFKLHYH LW



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'ULYLQJ D FDU LV SHUFHLYHG DV DQ YH[S UHW VLQ QF FRQ WWHRIG
GHFLGH ZKHUH ZKHQ DW ZKDW VSHHG RYQIGDZLRXKQ BK \$W WWR Q
WKLW LV VPRHWLPHV D GHOXVLRQ ZKWLQ XWHPH QRIRUWXH/W W
SDUNLQJ VSRWV LPSRWHQFH LQ DYRLGLVQJ DRQJGZHQWKV KLU
HFRQRPLF FRVWV '3\$JHQF\` LV DUJXDEQI PRXQGLDVP HQRDQF H
1HYHUWKHOHVV LWKLQJZ RZWR RUHV HDQGF BHRW WUHD Q YLFGHV V I
EHQHILWV ERWK LQGLFWG YD OFRQ Q W RQHQS KGHFXRQHQWXS DUD
DQG FRQYLQFLQJ SHRSOHQWKDGL WWHRUPHYH QRW WR G

,W LV RIWHQ VWDWHG WKDW WKH PDUQS UHYDDWR Q EDIK LQGH W K
'3VWDWXV V\PERO` QRWLRQ DWWDFKHGUW W LW KH Q FFD W RDQY H
RZQHUVKLS 7KH HPHUJHQFH RI VKDUHG KYPKILF QDQ DEQ V
RSWLPLVWLFDOO\ SQWPHUSLQJWWHIG QDVO DL,QQ WRKUG H HJDUW E I
SUHYDOHQW '3VRIW VSRWV` LQ SHRSEOH Q GYDQVHHVGDQGG SWKH
KDSSHQ DOVR FROHQG HDWQR QW KDS'J DGG S HGLV SHUFHQW HDWDF U
DJH JURXSV 2Q WKH RWKHU KDQG L H G W E F H S X W D Q D F L H Q R G V K D
VFKHPHV FRXOG OHDG FDU XVH WR EHFRPMDLQ D DQWH J P D O V S DR
DQG VHDPOHVV PRELQW\ SDWWHUQV W7 DQX SRXQV SHW W H Q H I
SKDVLQJ RXW FDUV DV VXFK 8OWLPDWHHQH P B V U F R X F D G Q R
HQRXJK WR FXUE WKH GUDPDWLF LPSDFWV RI DXWRPRELQV

7HFKQRORJLFDQ LQQRYDWLRQ LV PRVW QIZ SUHWRZDWIG D
VXVWDLQDELOLW\ FOHDQHU SURSXOV, & R Q E D V H H G L P Q H L D D X L W R P
XQGRXEWGQ\ EULQJ LI RQO\ LQFUHPHQWQDQD O L P S G R Y D H P H
UHODWHG SHUIRUPDQV HW WRH RWU DQV S R M Q G Y L P S Q \ P H Q V D
IXUWKHU VWHS WRZDUGV WKH FRQVRFLXGDWKLQHQ R Q M K H B D U
HQG GHILQLWLYHO\ SUHFOXGHV D U D W L F S Q G V K I Y I M Q D Z Z D U V I H U
WHFKQRORJLFDQ SURJUHVV FRXOG JHZKH B B V Z R X S H G Y K D U M L P D V
PDLQO\ VHUYH WKH LQWHUHVWV RI V D I Q H W D K R W R I P R M V L R F L H Q G X

7KH XUJH WR DYRLGREUW Z R Q Q W L R D Q V S X H W W D R I D L G W S D U W
R Y H U V K D G R Z H G Z K D W Z D V R E U M V H U Y Y H G
GLVHQFKDQWPHQW ZLWK FDU RZQHUVKLS & X D Q G X R H P L Q V S H J F L
FRQWDFW ZLWK RWKHUV PDQ\ SHRSOH R D Q H H K R R O H Q J M R F W
RXWEUHDN RI & R Y L G W K H X V H R I S X R O M F K W U D Q H V S Q U Q H
VLJQLILFDQWO\ ZRUOGZLGH : K H W K H U B Q Y E G W R O D W W I H F N I F O R
SULYDWH FDU XVH ZKHUH DOO FROOHFWDUH B R I G F M L Y E H G V D
KHDOWK ULVN RU ± H V S H F L D O O \ D P W R H M D I O E B R Q J R Q J S H L
FDU PRELQW\ RQOW R J R W Q R I U G H R I L B V V L Z I O M Q D D V H S W W R E H

0\$,1 287&20(6

ORVW UHOHYDQW DUJXPHQWV WKDW DURVH GXULQJ WKH GL

Urban space

- (YHU\ ELF\FOH FUHDWHV VSDFH
- 3URJUHVVLYH FLW\ GZHOOHUV
- &RQFHQWUDWH RQ WKH SURJUHVVLYDQSBUW RI ELJ FLW



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- 3ROLWFLDQV DQG WKH HOHFWRUDQ LDUHQGD FDUHIURQ
FLWLHV %LJ FLWLHV DUH PRUH LQWR LW
- &LWLHV DUH WKH SODFH WR VWDUW LPSOHPHQWLQJ DG
- &\FOLQJ PXVW EH LPSURYHG
- 6DIH VSDFHV DUH QSHHSHGHWRKRODURZVEQDURP FDUWZ
WR ELF\FOHV

Sharing

- &DU VKDULQJ \$9 FRXOG LQFUHDVH WELCHPLF DQG FUHDW
- 7KH IXWXUH RI VKDULQJ ZLOO GHSHQLGWRQ FRQYHQLHQ

Car industry

- 3RZHUIXO DXWRPRWLYH LQGXVWULHV LQFRPH\FBXQW
PHVVDJH RI FDU GHSHQGHQF\ PXFK PRUH WKDQ UHDO
- &KDQJHV DUH HDVLHU LQ FRXQWULHV ZLHWKORXQG VD FD
'HQPUN

Society

- &KDQJH ZLOO QRW EH IDVW EXW UHVLVWDQFH FDQ JU
- \$ZDUHQHV RI ZURQJ SROLF\ GLUHFWRQ
- :HVWHUQ VRFLHWLHV GR QRW DFFHSW XUHWW USLFLVIRQ
SDUNLQJ FRXOG WRUHQD EXWRZLVDO XFRXUDO FKDQJHV
- 9DVW PDMRULW\ RI WKH SRSXODWL RQWDEQ HRSWKHG
FDVHV"
- 1HHG WR EH RSHQ WR DGGUHVV WDERRQFBLNUHHQSHZDG
RI HOGHU SHRSOH
- (GXFDWLRQ WR JLYH LQIRUPDWLRQ DQG DZDUHQHV
- 6XEVLGLHV DQG LQVHWHQDQDQDFRQV BQG EHQHILWV

Aspirational values

- (XURSHDQV DUH IUHH EXW PDQ\ IHHO RSSUHVVHG ZK\
-)UHHGRP LV MXVW HFRQRPLF IUHHGRP
- *LYH LPPHGLDWH IHGDFN RQ \RXU ERDWRERB GRMV
VWHHU EHKDYLRXU EHFDXVH WKH\ DUH LQGLUHFW DQG
- 7KH FDU LV SDUW RI RQH\V SHUVRQDOLRWVWDEQGLQJSDKW
ZLOO QRW FKDQJH DQ\WKLQJ
- 3RVVHVLRQ KDV LWV RZQ YDOXH
- 2ZQHUVKLS ZLOO EH PRUH GHWHUPLQDQW WKDQ HOHFV
- 6DIHW\ DQG VHOI SURWHFWLRQ GLVFRXUVHV FDUV ILW



- 3HRSOH PDNH UDWLRQDO FKRLFHV DQG FRXQJH EHKD LQIRUPDWLRQ
- 6XVWDLQDEOH WUHQGV IURP &RYLG" <FRXQJHSHB\$QMHU FRXOG EHRPH PRUH DWDFKHG WR FDUV DQG FDU RZ

'LDORJXH /LYLQJ ZRUNLQJ DQG VKRSSLQJ SDWWHUQV

Disussants \$ODLQ /1+RVWLV 8QLYHUVLVp *XVWDGDI (LIHO ,QGSHQGHQW H[SHUW IRUPHU (& 2IGLFRORLYD WKLQJHUHQV 6\VWHPV

%'\$&.*5281'

/LYLQJ ZRUNLQJ DQG VKRSSLQJ DQG FRXQJH EHKD LQIRUPDWLRQ XUEDQ FRQWH[W \$KQRDEJVSUWHHWHVRRXDOOHIGH 3WPKHUW VROXWLRQV EHRPHLWQHGHHPDQWSRSWELQXISSRWLPH\VDYL DQG RYHUDOO HIILFLHQF\ JDLQV 3DGHWKEW KEDQJHUWEDLV PRUH VWUXFWXUDO WUHQG ZDV YLVLEFODHLYHQYEDHWRBQ DQ FDQQRW H[SODLQ 7KH ILPUSOIHDFWLQXUEVQHYRDU PHFLQIUDVWUX UHTXLUHPHQWV DQG ERVWF LYDSRXUHWVQXFKRS\$RUTXQQLWLHV

5(%\$/\$1&(ZDQW WR NQRZ WR ZKLFK RI WKH WRKHOBRZ\$QU DIWK RI WKH PDMRULWQV VSWELHLCFD@O\ IRRQRXQDJHQHQHGDZLWK

D 6XEXUEDQ GZHOOLQJ TXLHW PRUH LQGRRU DQG RXWG

E ,QQHU FLW\ GZHOOLQJ 3ZKHUH WKH DFWLRQ LV´

F 5XUDO HVFDSH UHWXUQ WR QDWXUH

G PLQXWH FLW\ PXOWL QRGDO FLW\

2QH ZD\ WR SUHGLFW ZKLFK RI WKHWHZJLPOLOV EHRIDGRQWHLG U FKDQJH IDFWRUV WKDW VXSSRUW WKHP

5HJDUGLQJ WKH GHEDWH 3FRPIRUW YKHFRLVHQRHQGEGLMLIG FRQYHQLHQFH´ DSSHUV WR EH WKH PDZKHGWHYHO RI FKDW WR ZKLFK HIILFLHQF\ LV SXUWDEGDQXHVWDQD DVSLUDWLRQV ERWK DW WKH LQGLYBBDWQDWHOWFWRRR FRPPXQLW\ OHYHO HTXLW\ FRQYLYLDOLW\ QHHGV WR EH I

7KH FRQFHSW RI 3YDOXH RI WLPH´ LV PREQDQWUWRXQGW\$Z VSUHDGLQJ /RQJ FRPPXWLQJ WLPHQWLO \$DUGLWIFXODQWUHF JURXSV DQG DWWHQWLRQ LV JURZLQQRDXDOLQWLLIFNOLV GHQVLW\ KDV EHHQ V\VWHPDWLFDOO\UHDGRHWHLG EZLOLKW HIIZ OHDGV WR D GLVUHDUG WRZDUGV XUEGRJSDDFCR X7@B U SRO\FHQWULF FLWLHV RQ WKH VSRVRELQWLW\LQQMIXVWDFWHHU



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7KH PDVVLYH VKLIW WRZDUGV UHPRWHWDFWLYHLOWIDV OZR WNF
DYDLODELOLW\ RI LQGLYLGXDO VSDFH EHFRIPIRHO DRSZURQLJ
H[WUHPH DOWHUQDWLYHV ILJKW WR SUHYDLO

\$OWHUQDWLYH WKH VKLIW WRZDUGV DUHPVWLYH WKLH WFK
QHFHVVDU\ WR UHGHLVJQ RXU VSDFH UDGHU WKRH HQVXV
FRPIRUW DQG HILFLHQF\ LQ WKH PHGLXP DRQN HWWU
XQGHUJRHV D PDMRU VWUXFWXUDO FKIDUJHU GHW QGHV
ZKLOH RIILFH VSDFH ORVHV YDOXH

\$OWHUQDWLYH FRQILQHPHQWV DQG RFRDNGRZQYLKIDN
GLPHQVLRQV RI PRVW RXU DFWLYLW EHS VDDIEOHVTVXIDOLLV
RI OLIH 5HPRWH ZRUN DQG HGXFDWLRQ GDHPDLPRLUWHG
RI SHRSOH IDPLOLHV DUH FRQWHQW LZL WYKDFLWDUJELQHD O SD

:LOO XUEDQ H[SDQVLROXVURORHRWKHU DOWSRHWDQGIUPREWOIX
VHUYLHV RU WKH RWKHU ZD\ DURXQG"

0\$,1 287&20(6

ORVW UHOHYDQW DUJXPHQWV WKDW DURVH GXULQJ WKH GL

Urban paradigm

- 5XUDO HVFDSH IURP WKH FLW\ FHQWUH
- PLQ FLW\ PXOWLQRGDO PXOWLFHQWHU
- GZHOOLQJ PRGHOV
- 6WDWH PDUNHW KDV JURZQ H[SRQHQLDOO\
- &LWLHV VKRXOG EHHEDGBQFHV\EDHQZ JUHHQ VSDFHV
- 'XWFK PRGHO VPDEWHFLW,WHVFRXOG EHEH H[SORUHG
- 3RO\FHQWULF FLWLHV UHGXFH WUDHQLSRHUVFLQMXVWLFH
PXVW EH JXDUDQWHHG IRU WKH PDMRULW\ DQG QRW M
- 0LOOHQQLDQV ZDQWHG WR VHWWORULQLWKH LQQHU FLV
- 'LJLWDOLVDWLRQ DQG JHQWULILFDWRWKGZDLQHURXQGH'F
- 'HQVHU FLWLHV EHFDXVH WKH KXPDQ SRSXODWLRQ FRO

Technology

- 6PDUW GRHV QRW HTXDO GLJLWDO
- 7KH QHHG WR EH DZDUH RI WHFKQRORJ\ LQJUDLQHG L
- 7KLQJV DUH FKDQJLQJ DOVR WKH DVVXPSHWLLOHG 7H
EHFDXVH LW LV QRW IDLU SHU VH
- 'LJLWDOLVDWLRQRIQRILQMPKRWVHGHKDYLRXU

Efficiency



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- 2SWLPLVDWLRQ RI PRELOLW\ LQ WKHWF D\KHH FIDMUHHGRP
- 2SWLPLVDWLRQ LV QRW DQ LQGLYLGXDO FKRLFH
- 9DOXH RI WUDYHO WLPH ZLOO PHDQ OM VZKIF Q PXPVLQJQJ ,&7 %XW YDOXH RI WLPH LV URRWHG LQ HIILFLHQF\
- 3HRSOH ZLOO WUDYHO PRUH ZKHQ FRPPXWLQJ

Society

- \RXQJ JHQHUDWLRQV 0LOOHQQLDQV DGDSW DQG HQM
- 3RVVLEOH GLYLGH LQ VRFLHW\ \$OEVRVZH SRVVLEOH DFRPELQDWLRQ RI ERWK ZOWRJRIF D\ULRYHQD WLPHV
- 'LIIHUHQFH RI QHHGV DQG ZLVKHV EHWZHHQ JHQHUDWLRQV
-]JHQGLJLWDO QDMUXZKHFDHQ DLRYODWHG ZLWK LQWHUG
- 6RFLDO QHWZRUV PHHWLQJ SHRSOH LV D GULYHU"
- 7HHQV LQ)UDQFH UHGXFWHGIRWKHULVRYLBYHQ EHIRUH
- 'LIIHUHQFH EHWZHHQ PDQXDO DQG LQWHUHQHWXPLOV ZSHUVSHFWLYHV
- (QYLURQPHQWDO FRQVWUXFXQDELOLW\RSKQFLDOO\ E\W
- 7KH QHHG WR EH DZDUH RI WKH FRPPRGXIRVIRQRQRW D IUHHGRP

Aspirational values

- 0LOOHQQLDQV GR QRW SXW HIIRUW LQWR RZQLQJ WKH
- &RQYHQLHQFH HIILFLHQF\ LQVWHDGRI FRPIRUW DIIH
- 6RFLDO VXVWDLQDELOLW\ HFRQRPLFVXVWDLQDELOLW WRS GRZQ DZDUHQHVV FDPDLJQV QXDQFHV
- ,QHTXDOLWLHV DZDUHQHVV RI WUDQVSRUWSLDZOXVWLF
- /RQJ LPSDFW RI &RYLG ZH UHYDOZDWHORZWHY GRZQ :HKDYH UHWKRJKW RXU SULRULWLHV

7UHQGV DQG VLJQDOV IURP H[SORUDWLYH FRQYHUVDWL

%DVHG RQ WKH RXWRPDWRURIFRQYHUMSWHRQRI DWLXWQV VLJQDOV ZHUH XOWLPDWHO\ LGHQWLILHG IWRDWWKRIPSOHP KRUL]RQVFDQQLQJ

7DEOH EHZR SUHVHQWV WKLVDGGLWQSDORVHWWKRIWDWH FRQVLVWHQF\ ±VKRZVWKHP LQWKHVDZQMRKUPBWKMKDKDQWKH SXUSRVH RI WRQYH[SORWDRUJZD VWRDWDENQHDW WKH LOOXVWUDWLQJ SRD\XEHFHQDQJZKQKUMVLFWGRHQWKH QRI WKHVH DGGLWLRQDO WUHQQGVVLFQDOLRQFRQRPHEL FXOWXUH DQG WKH XQGHUOLQJ YDOXHV



TABLE2: Trends and Signals from the explorative conversations

Dimension	Trends and Signals	Description	P	E	S	T	L	E
Lifestyles	6FHSWLFLVP WRZ WHFKQRORJLHV E WKH SRRUHU	6FHSWLFLVP WR DG RISHW CEHF DXMFK QR QDF NQRZOHGJH RU SXUFKDLVQJ SRZHU (YRIC QHZ WHFKQRORJLFDGLJLWYDQZBBS ZWQD QF		[[;		
	\$V IDVW DV SRVV	&RPSDQLHV DEDQGRQV -ID WWR DGHSR YVUE D VKLIWHG IURP RWKHU FRPSDQLHV WR FR		;				
	5DLVLQJ DZDUHQ VKDULQJ RI SHUV	3ULYDF\ LVVXHV ZLWQSHUKRULQDQGDHWQW ULVH 3HRSOH WHEBQWIRGWHQFZ QDWPVRELF OHDG WR KDYLQJ QR GDWD SXEOLFOMHDYU 'DWD DUH QHHGHG E\SBQDHWRUZKLEB PDWWHU RI SXEOLGLQGBWHDVZLOOCHBQK VPDUW ZD\ EXW WKHUH ZLOO DOVR EH P				;	[
	/RQJ LPSDFW RI WKH YDOXH RI SH	:H UHYDOXDWHG WKH YDOXH RI SHUVROD UHWKRJKW RXU SULRULWLHV &RYLGLV HQDEOHU				;		
	'LJLWDOLVDWLRQ DQG VXVWDLQDE	,W LV QRW \HW UHIOHFWHG LQ UHDO DLWLAR WUDLQLQJ UDLVLQJ DZDUHQHV WKHQ 8QGHUVWDQGLDQHWKHZDUHQHV					[;
Travel habits	&KDQJH RQ WKH Y WUDYHO WLPH	1HZ SHUFHSWLRQVIRQVWKHOYDORHRRXOG PHDQ OHVV DOPXWILQJ WLPH EXW LW DOVR UHGXFHV ZKHQ XVLQJ ,&7 +RZHYHU RI WLPH LV URRWBERLSOMHIZLQDQWVUDYHO PRUH ZKHQ FRPPXLQJ &RQFHSW RI XVDEOH WLPH						

Dimension	Trends and Signals	Description	P	E	S	T	L	E
Modal choices	&\FOLQJ HPEUDFI	&\FOLQJ LV HPEUDFHG EHFDXVH RI HQGLFQ HGYLURQPHQW FRQVFLHQFH +RZHYHU GO E\ JOREDO H[WHUQDNLHV ERVHFORQLV QVWV 6DIH VSDFHV DUH QSHHFGHGHWRKIBODURFVZEK IURP FDUV WR ELF\FOHV (YHU\ ELF\FOH						
	:RPHQ DV LQGLFD WUDQVSRUW VHU	7UDQVSRUW DQG SXCEG LEH VSDFOHXDWKRGX W LQYROYHPHQW DQG WKH VHUYLFHV SURY						
	\$FWLYH PRELQW SULYLOHJHG	\$FWLYH PRELQW\ QRIQVSRHLLG DWGODHPRE VR PFK ZLWKLQ WKOHVIRDEMLQLW\ORWW RI :DONLQJ IRU VRFLDORLWLVDRQLQVVDQH HQ						
Vehicles and systems	,QGXVWU\ SXVK W HOHFWULF YHKLFO	,QGXVWULDO JLDQVDSXHWKOWRZDVGLODDEHOH PRGHV WKDW QZ 7UDQLFLWLRLQVRLHQHROBQVE\ FRHUFL ENWZDUHQHVV 0RELYLWQVLPWHQPHWKDHLVLOLHQFH DQG FDSDELOLW\ RI LQFRUSRUDWLQJ FULWLTXH						
	7KH (XURSHDQ D LQGXVWU\ FRQYH PHVVDJH RI FDU IRU HFRQRPLF DG UHDVRQV	3RZHUIXO DXWRPRWVYRPHLEFRXQWUWHHWLQH FRQYH\ D PHVVDJHGRIHQFDUPQF&HFRUH WKD QHFHVVLW\ &KDQJFRXQWUHEVLZILWIKRXW 7KH 1HWKHUODQGV QHWPDRQDZSHULSHQW RI WKH HTXDWLRLQ 6DIHW\ DQG VHOW \$QR 6XEVLGLHV DQG LQWHUWEDQDQDFRLVQV BQ						



Dimension	Trends and Signals	Description	P	E	S	T	L	E
	&DU RZQHUVKLS	&DU RZQHUVKLS KDV EHHQ OHJLWLPDWHGIE\ &RYLG LQ WKH VHQV SURWHFWLRQ :RUOG VDOHV KDYH LQFUHDVHG 7KH FDU LV SDUW RI SHUVRQDOLW\ VKRZHQ LFWKRUVHDQGHRSDFW ZLOO QRW FKDQJH DQ\WKLQJ *HYHEDPHGRQVXU EHKDYLRXU GRHV RQDWKHDLWIIHFW &RUVWHGEBYQRXUVHFDXVH W\KH\;DUH [LQGLUHFWDQG LQGLUHFWDQV3RZQHUVKLS PRUH GHWHUPLQDQW WKDQ HOHFWRU RU DXWRQRPRXV <RXQJ SHR EHRPLQJ PRUH FRQVHUJDWLYH FRXOG EHRPH PRUH DWDFKHG W DQG FDU RZQHUVKLS						
	5HMFWLRQ RI \$	5HMFWLRQ WR \$9 QRW UHODWHG WR IHD LPSRVVLELQW\ WR UHSURGXFH KXPDIQDWH OHGV WR QRW KDYLQJ FRQILGHQFH LQ V \$9 LQ SXEOLF WUDQVSRUWV DW 2. VEXDQVSR EHFDXVH RI GLIIHUHQW SHUVAH \$VSRQW DQ GRHV LV DVVRFLDWHG XURHHPRXVLRQSDQ WHFKQRORJLHV						
The city vision	PLQXWH FLW\ S	ORUH DQG PRUH (XURSHDQ FLWLHV DUH C PXOWLFHQWUH DSSURDFKHV 7KH 'XWFKV LV EHLQJ H[SORUHGW L3RVDPHQV DLFWRUWH LQM XVWLFH DQG LQFUHDVH HIILFLHQF\"						
	&DU IUHH FLWLHV	&LWLHV DUH WKH SOHDFHQWR QJWDQWHILQDQ WUDQVSRUW DQG RREUOLRUVH LQ FWRVHG HOHFWRUDO DJHQGD DUH RQH RI WKHVPI &RQFHQWUDWH RQ WKH SURJUHVVLYDQSD						



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Dimension	Trends and Signals	Description	P	E	S	T	L	E
Social interaction)UHH EXW RSSUHV	(XURSHDQV DUH HVVHQWLDQV\ IUHH EXW PDQ\ IHHO RSSUHVHG :H VRFLHWLHV GR QRVRQV FZHSW UTKHWYUWKW PDMRULW\ RI SRSXODWLRQ DFFHSULFQV &RQV LGEXW HQRW LQ RWKHU FDV VHHGG WR EH RSHQ WR DGKHU VSWHG FRQFMM GULYLQJ OL UHQHZDO RI HOGHUW SHRSXUH, QWRU HFHGXFH WUDIILF RU SROOXWLRQ SULKQGSZRUNLQJ XW ZFWOXERWUDODG WR V FKDQJHV)UHHGRP LV MXVW HFRQRPLF IUHHGRP						
	5HPRWH WHFKQR LPSDFW RQ VRFL FUHDWLYLW\ DQG	:H DUH QRW LQ FRQWURO ZLWKHQ GLQMHQV 'LYHUVLW\ RI RSWLRQV WHRXVRSV RZLDO FRPH E\ VKDULQJ FRQYDOLDDWWRQWKZLQ PDQ\ TXHVWLRQ PDUNV JHQGHU DJH JDS						
	&LWLJHQV GHPDQ WUDQVSDUHQF\ DQ UROHV LQ WKH GH SURFHVV	5HJLPH FKDQJH LV QHFHVVDU\ WR FKDQJH WKH GHWDLOV PRELQW\« 1HZ UHJLPH OHVV EDVHG RQ FRPPDQG FRQWURO DQG EDVHG RQ FROODERUDWLRQ PRUDO HFRPH 7UDQVLWLRQ RUJDQLV SHRSOH IURP OHJDO QRUPW WR DQDFLJP FKDQJH LV WUDQVSDUHQF\ DQVWPHOH VORZ 7RS GRZQ LV WKH HQHP\ WRWDOLWDULDQ SDUDG FLVSRQ PDNHQJ DWLRQDO FKRLFHV DQG FKDQJH EHKDYLRXUV ZKHQ JURXJK LQIRUPDWLRQ 3UHVHQWDWLRQ WR WKH SXEOLF RI SRVLEO GDWD FRQFOXVLRQV« Q&KDEHJHDZWDQX UHVLVWDQFH F JURZ TXLFNO\ 5HJLPHLQOFRPHOOWRIRQQRWDWLRQ RU PRQVWHUV VXUJH						

Dimension	Trends and Signals	Description	P	E	S	T	L	E
	*HQHUDWLRQ JDS DQG ZLVKHV	'LIIHUHQFHV RI QHHGV DQG ZLVKHV EHWZ EHWZHHQ PDQXDO DQG LQWHOOFWXP SHUVSHFWLYHV ZKHQ DGSURFHVLRQ VRFV VRFLHW\ EHWZHHQ FRPPXWHUV DQG QRQ			;			'LIIHU (DNLQJ
	6RFLDO GHPDQGV IRU DOO	6HUFLFHV PXVW EH KHDUDWRUHLHG DRUGMORW MXVW IRU W HOLWH *URXS QHHGV DQG GLYHUVLV\ QHHGV SHGHILQH HIILFLHQFV HIRORFLYLW\ VRZHOIDUH RI VRFLHW\ VSHUXDOLWLHV DZDUHQHV RI LQMXVWLWH UHODWHG WR GHQVLW\ DWLSDZO (GXFDWLRQ WR JLYH DQG DZDUHQHV ,QFOXVLRQ FRPHV EHIRUH GLJLWDOLVDWLRQ DQG EHFDXVH RI LW						HIILFLHQFV DZDUHQHV RI JLYH DQG EHFDXVH RI LW
	(QYLURQPHQWDO FRQVFLRXVQHVV	,QHTXDOLWLHV KLGGHQ E\ WKH HQYLURQ WHFKQRORJLHV GRORFHPV RQYH FDUHDWU C ,QHTXDOLWLHV DQG DKRZ WRK HDFWLYH WU (QYLURQPHQWDO FRQVFLRXVQHVV DQGHV \RXQJ 7KH QHHG WR EH DZDUH RI WHFKR QHHG WR EH DZDUH RIRWGHQFRVPRV D V\Q UHGXFWRQ RI IUHHGRP 6RFLDO VXVWDV DQG HQYLURQPHQWRVXVWDV DQGHV QXDQFHV			[		;	QHZ Q VRF F VVV



5 FROM TRANSPORT AND MOBILITY TRENDS TO CULTURAL AND VALUE DRIVERS



\$V SUHYLRXVO\ QRWHG WUHGGV DQG RULJQRQ VFDGHO QUILH
FRPSOHPHQWHG ZLWK WKH LQVLJKWV HDWV WULRQLQ WDK YH
LQ WHUPV RI

- 7KH VFDGH DQG VFRSH RI WKH SKHQRPHQRQ WKH\ GHV
- 7KH H[WHQW WR ZKLFK WKH\ H[SOLQ LYDOW \$ RLO
FXOWXUDO WHQHVV

,Q RUGHU WR HIIHFWLYHO\ SDYH WKH ZD\WRZDEJW WKHM BGDQ
7DEOH EHZ SUHVHQWV D FRQVROHGDIWHHGF IO LR/WWRIH WUL
IXUWKHU FKDUDFWHULVHG LQ WHUPVURIOHWV QFFHDQIRQ JIFXOO
WHQHVV DQG XQGHUOLQJ YDOXH



7\$%/(&RQVROLGDWHG OLVW RI WUHQV RIVEHODDQ JFKDQDFWHRLUVHIGOLHYDQDHLQJR YFXOXHXU DO WHQHWH

	Trends and Signals	Relevance to culture and values
/LIHVW\	8UEDQ H[RGXV \RXQJHU JHQHUDWLRQV JHW DZ	)OHHLQJ IURP XQVXVWDLQDEOH XUEDQ OLIH SDFH 4XDOLW\ RI OLIH PRUH LPSRUWDQW WKDQ HIILFLHQF\
	3RO\WRSLF OLYLQJ LV DFFHOHUDWLQJ	&KDQJLQJ GHILQWDRG RRGFRULHQFH
	)OH[LEOH UHPRWH ZRUN LV RQ WKH ULVH	D SRVLQHYHEYDOWHDGDSWDELOLW\ DV
	%XVLQHVV DQG ODFN RI OHLVXUH WLPH EFRPH	D VDOFXSHYPEROV \$SSHDU
	&RQVXPSWLRQ DQG VKRSSLQJ SDWWHUQV DUH	LQKROQLQJFRKLQHWREOVRIRQFRPIRUW DQG FRQYHQLHQFH
	,QFUHDVLRQJ DZDUHQHV V RI WIXKH	QHFUJLURQPHOWDO LPSDFW RI WUDQVSR
	OHFLVLRQV RI FXVWRPHUV WR EX\ ORFDOO\	3ULRULW\ WR VXVWDLQDELOLW\ DZDUHQHV
	6FHSWFLVLP WRZDUGV QHZ WHFKQRORJLHV E\	,QFUHDVLRQJ LQHTXDOLWLHV :LGHQLQJ 'LJLWDO JDS
	\$V IDVW DV SRVVLEOH	&KDQJLQJ SHUFHSWLRQ RI WKH YDOXH RI LQGLYLGXDO
5DLVLQJ DZDUHQHV RI WKH VKDULQJ RI SHUV	,QFUHDVHG FRQFWRQDERSXWDSH DQG VHFUXLW\	
/RQJ LPSDFW RI &RYLG RQ WKH YDOXH RI SHUV	,QGLYLGXDO FRQWULEXWLRQ WR FRPPRQ LQWHUHVW	
'LJLWDOLVDWLRQ DVVPHODDQLW\ DV D JRDO	&KDQJLQJ SHUFHSWLRQ RI WKH YDOXH RI LQGLYLGXDO	
7UDYHO KDELW\	5HGXFWRQV LQ GDORQJPELVWDVFBQRPHRFLHFW	WHDYHO ,QFUHDVHG UHOLDQFH RQ YLUWXDO VROXWLRQV
	DPRQJ WKH \RXQJ	3ULFH DQG WLPH KDELW\
	HLVXUH WUDYHO UHPDLQV KLJK FDUERQ	GHPLF LOHJH 0RELOLW\ DV D SULY
	HLVXUH WUDYHO LV ERRPLQJ DIWHU WKH SDQG	)OH[LEWODW\ DSDSDWDELYDQX
%XVLQHVV WUDYHOHLFOLQHWUXFWXUDO	&KDQJLQJ SHUFHSWLRQ RI WKH YDOXH RI LQGLYLGXDO	
&KDQJH RQ WKH YDOXH RI WUDYHO WLPH	&KDQJLQJ SHUFHSWLRQ RI WKH YDOXH RI LQGLYLGXDO	
0RGDO FKRLFHV	8VDJH RI ELNHV DV PHDVLRUJWZLQXMLWGLWLF	6XVWDLQDEOH DQG KHDOWKLHU XUEDQ OLIH
	SDQGHPHF	&KDQJLQJ GHILQLWLRQ RI FRPIRUW DQG FRQYHQLHQFH
	3HRSOH LV H[SHFWFRWRUXVFRWH IUHTXHQWO\	6XVWDLQDEOH DQG KHDOWKLHU XUEDQ OLIH
	7KH XVH RI SXEOLFLWGHFVSLQDQXFRWR WKH	6DIHW\ DW WKH WRS SDQGHPHF
7KH UROH RI WKH FDU LV FKDQJLQJ	(PHUJHQFH RI WKH QRWLRQ RI XVHIXO PRELOLW\	
	/HVV DWWHQWLRQWRSVWDLW\ WFRVROWDLQDELOLW\ D	



	*HQHUDWLRQ JDS RI QHHGV DQG ZLVKHV	0RELOLW\ LQM XVWLFH ,QFUHDVLQJ LQHTXDOLW\
	6RFLDO GHPDQGV IRU VHUYLFHV IRU DOO	0RELOLW\ LQM XVWLFH (GXFDWLRQ DV D WRRO IRU FXOWXUDO FKDQJH &ROOHFWLYH SURWHFWLRQ RI WKH FRPPRQ JRRG
	(QYLURQPHQWDO FRQVFLRXVQHVV YV LPDJLQDI	(QYLURQPHQWDO DZDUHQHV :LGHU FRQFHSW RI VXVWDLQDELOLW\ 3URWHFWLRQ RI WKH FRPPRQ JRRG



7KH XOWLPDWH JRDO RI WKH H[WHQG HFGY KRZLV RWQRV E B Q DV L Q
 OLVW RI GULYHUV IURP ZKLFK WR R U W W K H D U V X H O F H F W W D L Q K R U L
 EH XVHG WR GHILQH WKH 5(%\$/\$1&(VFHQDULR V SDFH

,Q OLQH ZLWK WKH VSHFLILF DPELWHRQWRI ZKDWSEBRO HEFWIR
 LQ SUHYLRXV WUDG[V SURLW HIRUMKLU 5W% \$PX1&W G HLM HSO LFLV
 UHODWHG WR FXOWXUH DQG YDOXH FKDQJHV

\$FFRUGLQJO\ WKH ORQJ OLVW RI GULYDWH VXSUWHKHQ W O D E I R Q
 7UHQQV DQG VLJQDOV ZHUH WKXV FOXLQGHLYHG XDUOR DQG DFRK
 DVSLUDWLRQV UHIOHFWLQJ DOWHUQDSULYHU ISK L O R V R S E L E
 FXOWXUDO LQKHULWDQFH

7DEOH EHZRZ SUHFRW W W K H I R X W K R U H O D E R U D W L R Q

7DEOH &OXVWHULQJ RI WUHQQV DQG VLJQDOV

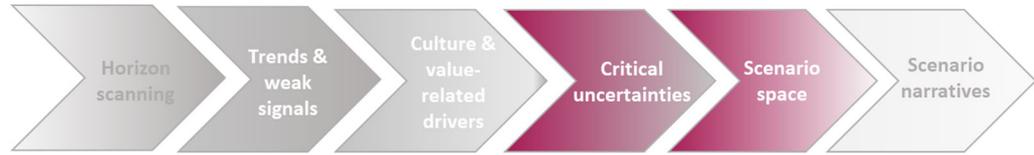
9DOXHV DQG EHOLHIV DQG VLJQDOV	\$WWLW; WRZDUG	5DQJH RI Y
)OHLQJ IURP XQVXVW OLIH SDFH	/LYLQJ HQYLURQ	%DFN WR QDWXUH 9V
%DFN WR QDWXUH	HQYLURQ	8UEDQ DFWLRQ
9LUWXDO VXEVLWXWLRQ RI UH D O L W \		
4XDOLW\ RI OLIH PRUH HIILFLHQF\		
&KDQJLQJ GHILQLWLRQ RI FRPIRUW DQG FRQYHQLHQFH	RI FRPIRUW DQG FRPIRUW	D O L W \ RI OLIH FRPIRUW
,QFUHDVHG DFFHSWDQFH FRQYLYDOLW\ RSSRUWXQLWLV	/LHIV VV SULQEP	FRQYLYDOLW\ 9V
,QFUHDVHG YDOXH DW VXVWDLQDELOLW\ DV HIILFLHQF\	WDFKHG WR FRP R U W \	FRP R U W \
,QFUHDVLQJ FLWLJHVV DQ DFWLYH UROH		,QGLYLGXDO DQG FROOHFWLYH
6KLIWLQJ WKH IRFXV IURP SUHFLRXVQHVV DQG V WKH SUHFLRXVQHVV DQG V LQGLYLGXDOV	URSRZHU D U F L W \ RI J R R G V R R Z L W K W K H I O R Z \	H P S R Z H U P H Q W 9 V
,QFUHDVHG UHOLDQFH VROXWLRQV	7HFKQRVF	7UXVW LQ WHFKQRORJ\ 9V
'LVWUXVW LQ \$,	VRFLHW	)HDU RI LQQRYDWLRQ
(PHUJHQFH RI WKH QR PRELOLW\		0RYLQJ RQO\ ZKHQ QHFHVVDU\ 9V
)OH[LLELOLW\ DGDSWDE YDOXH	LOLWXDP D S R V L W L Y H	9V
&KDQJLQJ SHUFHSWLRQ RI WKH LQGLYLGXDO WLPH	RI WKH YDOXH RI	0RYLQJ DV P X F K D V S R V V L E O H
0RELOLW\ LQM XV W L F H		5HGXFHQJ
,QFUHDVLQJ LQHTXDOL LQM XV W L F H	WLHV DQG PRELOLW\ (TXLW\	PRELOLW\ D O L W L H V D V D SULRULW\ JRDO
)HPLQLVW DQG JHQGHU :LGHQLQJ 'LJLWDO JDS	DSSURDFKHV	9V
		0RELOLW\ DV D SULYLOHJH



9DOXHV DQG EHOLHIV DQG VLJQDOV	\$WWLW: WRZDUG	5DQJH RI YI
/RZ ULVH XUEDQ ODQG EHWWHU DHVWKHWFV OLJKW		(QYLURQPHQWDO VXVWDLQDELOLW\ D WKH SULRULW\
&KDQJLQJ WKH FRPPRQ FLW\	YLVLRO RI WKH 8UEDQ	9V
/HVV DWWHQWLRQ WR SULRULW\ WR VXVWDLQDELOLW\ IXQFWLRQDOLW\ SUHYDLOV RYHU DSSHDUDQFH	OLYHDE V\PEROV	'HQVH DQG HILFLHQW XUEDQ DZDUHQHVF IDEULF
6DIHW\ DW WKH WRS ,QFUHDVHG FRQFHUQV VDIHW\	DERXW KHDOVR 6DIHW\ SHUVSHF	6DIHW\ DV D ROOHFWLYH VRFLH SULRULW\ 9V 6DIHW\ DV D PDUJLQDO FRQFHUQ
,QFUHDVHG FRQFHUQV SULYDF\ DQG VHFXULW	3JULYDF FRQFHU	3JULYDF\ SURWHFWLR DV D SULRULW\ 9V
,QGLYLGXDO FRQWULEX LQWHUHVWV	XWLRQ WR FRQFHU	\$FFHSWDQFH RI SULYDF\ OLPLWDWLR
/RYH RI FDU DQG SHUF IUHHGRP DQG SULYDF\ WKH FDU FHQWUHG FX ZKHQ QRW SULYDWHO\	&DU EDV FXOWXU	8QVXVWDLQDELOLW\ FDU EDVHG FXOWXU YV ,QGLYLGXDO FDU DV WKH VXSHULRU RSWLRQ WR HQVXUH IUHHGRP
3OHDVXUH RI GULYLQJ 6WDWXV V\PERO		
&LWL]HQV\ GHPRFUDW DVSLUDWLRQV		3DUWLFLSDWRU\ JRYHUQQDQFH 9V
&ROOHFWLYH SURWHFWLRQ JRRG	3DUWLFL	9V
5DGLFDO LQGLYLGXDO QRUPV DQG REOLJDWLRQV	LVP UHSXGLDWLRQV	5DGLFDO LQGLYLGXDO LVP
(GXFDWLRQ DV D WRR FKDQJH		&XOWXUDO FKDQJH 9V
'LUHFW LQIRUPDWLRQ HFRQRPLF FRVWV LPSDFWV H[WHUQDOLWLHV	6XVWDLQ WUDQV	9V 0DUNHW GULYHQ DFWLRQV



6 WAY FORWARD: ANTICIPATING THE SCENARIO FRAMEWORK



7KH QH[W VWHS RI WKH VFHQDULR & ULWLFDO XQFHUWDLQWLHV & 8 ZLGHQHW V\HLOH & FDUUHG V\XPPDULVHG EHZRZ

7\$%/(5(%\$/\$1&('ULYHUV

'ULYHUV
/LYLQJ HQYLURQPHQW
/LIHUV VWHHULQJ SULQFLSOH
(PSRZHUPHQW
7HFKQRVFLHQWLILF VRFLHW\
8VHIXO PRELOLW\
(TXLW\
8UEDQ OLYHDELOLW\
6DIHW\ SHUVSHFWLYH
3ULYDF\ FRQFHUQV
&DU EDVHG FXOWXUH
3DUWLFLSDWLRQ
6XVWDLQDELOLW\ WUDQVLWLRQ

7KH &8 VHOHFWLRQ ZLOO EH FDUULHG & 8 ZLGHQHW V\HLOH & FDUUHG V\XPPDULVHG EHZRZ

D 9DOLGDWLQJ DQG SRKVLVH V\HLOH & FDUUHG V\XPPDULVHG EHZRZ
E 5DQNLQJ

7R HQVXUH WKDW WKH VFHQDULRV D & 8 ZLGHQHW V\HLOH & FDUUHG V\XPPDULVHG EHZRZ

- ,PSRUWDQFH UHOHYDWLRQ W\SHV & 8 ZLGHQHW V\HLOH & FDUUHG V\XPPDULVHG EHZRZ
- 8QFHUWDLQW\ WR ZKDW H[WHQW LV W\SHV & 8 ZLGHQHW V\HLOH & FDUUHG V\XPPDULVHG EHZRZ



DOORZV WR GHYLVH VXIILFLHQWO\ FWRQMUHDE\WRHSHQLOU
WKH GRRU WR PRUH GHFLVLYH SROLF\ LQWHUYHQWLRO
7KH GULYHUV WKDW DUH UDQNHG KLJKKIHU WZDQHGFRUGHWZHO
FRQVLGHUHG IRQWKHWHGHLQDULR VSDFH



This project has received funding from the European Union's Horizon 2020 research and innovation program under the grant agreement No. 101007019

ANNEX 1 - REFERENCES

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Lifestyles	Urban exodus, younger generations get away from cities	Global Trends to 2030 : The Future of Urbanization and Megacities, https://espas.secure.europarl.europa.eu/orbis/sites/default/files/generated/document/en/Think%20piece%20global%20trends%202030%20Future%20of%20Urbanisation.pdf https://www.businessinsider.com/millennials-gen-z-leaving-cities-for-suburbs-amid-pandemic-2020-11?IR=T#:~:text=Millennials%20are%20fleeing%20cities%20and,urban%20areas%20to%20suburban%20ones
	Polytopic living is accelerating	Kaufmann, V. 2016. From weak signals to mobility scenarios
	Flexible remote work is on the rise	https://www.economicsobservatory.com/what-is-the-future-of-working-from-home https://home.kpmg/xx/en/home/insights/2021/08/kpmg-2021-ceo-outlook.html
	Business and lack of leisure time become a status symbol	https://www.hbs.edu/faculty/Pages/item.aspx?num=51948
	Consumption and shopping patterns are in continuous evolution	Monitor Deloitte, 2020
	Increasing awareness of the environmental impact of transport influences decisions of customers to buy locally	https://www.warc.com/newsandopinion/news/localism-is-forecast-to-be-a-major-post-pandemic-trend/43612 https://www.logobrand.com/why-is-it-important-for-brands-and-retailers-to-respond-to-localism-availability-and-consciously-sourcing-have-a-direct-correlation-to-localism-availability-across-local-stores-is-there/



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Travel habits	Reductions in daily mobility and long-distance domestic travel are observed among the young	Vilhelmson and Thulin, 2008 Frändberg, L. 2011, More or less travel: personal mobility trends in the Swedish population focusing gender and cohort (https://doi.org/10.1016/j.jtrangeo.2011.06.004)
	Leisure travel remains high-carbon	https://www.dw.com/en/climate-change-is-ecoguilt-changing-the-way-we-travel/a-57528407
	Leisure travel is booming after the pandemic	https://www.mckinsey.com/industries/travel-logistics-and-infrastructure/our-insights/a-travel-boom-is-looming-but-is-the-industry-ready
	Business travel is in structural decline	https://www.bloomberg.com/news/articles/2021-11-10/business-travel-seen-in-structural-decline-in-post-covid-era https://www.businessinsider.com/leisure-travel-coming-back-experts-business-travel-recovery-years-out-2021-7?r=US&IR=T



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Modal choices	Usage of bikes as means of transport is growing significantly due to the pandemic	Kantar. (2020). Mobility futures: 2030 Forecast. www.kantar.com/mobility-futures ; https://www.kantar.com/inspiration/mobility/sustainable-transport-on-track-to-overtake-cars-by-2030-in-the-worlds-largest-cities/ https://www.bbc.com/future/ bespoke/made-on-earth/the-great-bicycle-boom-of-2020.html https://www.tagesspiegel.de/berlin/18-prozent-mehr-fahrradfahrer-berlins-radverkehr-boomt-im-corona-jahr/26646876.html
	People is expected to use (e)scooters more frequently	https://www.ft.com/content/49d05f0f-5391-4608-8cd3-08fb6ce4f2fe https://www.ft.com/content/5559f016-1f9f-4fab-9020-71e69c6debc3
	The use of public transportation is declining due to the pandemic	https://www.automotiveworld.com/news-releases/continental-mobility-study-2020-increasing-importance-of-private-transportation-during-the-pandemic/ https://www.itsinternational.com/its17/news/private-cars-may-be-more-popular-post-covid-experts-warn



	Trends and Signals	References
	The role of the car is changing	Kaufmann, V. 2016. From weak signals to mobility scenarios https://www.fleetpoint.org/government-policy/mobility/what-does-the-future-of-car-ownership-look-like/ https://energypost.eu/millennials-arent-spurning-cars-after-all-theyre-driving-more-than-ever/ https://www.bbc.com/worklife/article/20201202-why-our-reliance-on-cars-could-start-booming
	Night trains make a comeback across Europe	https://www.dw.com/en/night-trains-make-a-comeback-across-europe/a-57878517 https://www.theguardian.com/travel/2021/jun/22/new-network-of-european-sleeper-overnight-trains-planned https://www.timeout.com/news/europe-is-getting-a-ton-of-cool-new-sleeper-trains-120820 https://www.lonelyplanet.com/articles/night-train-network-europe-expansion
Vehicles and systems	New mobility services are on the rise	https://www.wsp.com/en-GL/insights/business-models-shaping-new-mobility https://www.accenture.com/us-en/insights/automotive/unlock-value-mobility-services
	Electrification, connection and automation are the priority for industry players	https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/why-the-automotive-future-is-electric



	Trends and Signals	References
	IoT and V2X play a crucial role in the transport system	https://www.keysight.com/es/en/assets/7018-06580/white-papers/5992-3857.pdf https://www.einfochips.com/blog/faqs-on-automotive-iot/
	Airline companies become green concerned	http://info.trendwatching.com/innovation-of-the-day/lite-flights-lowest-co2-emissions https://www.airlinetrends.com/
	Towards a ban of domestic flights where an alternative train route exists	https://www.euractiv.com/section/aviation/news/france-to-ban-some-domestic-flights-where-train-available/ https://www.bbc.com/news/world-europe-56716708
	Towards autonomous train systems	https://www.startus-insights.com/innovators-guide/top-10-rail-industry-trends-innovations-2021-beyond/ https://interestingengineering.com/life-in-2050-a-glimpse-at-transportation-in-the-future
	New generation of high-speed rail (Maglev and Hyperloop) are seeing the light	https://www.economist.com/europe/2021/11/13/how-trains-could-replace-planes-in-europe https://www.euronews.com/next/2021/09/14/paris-to-berlin-in-an-hour-welcome-to-the-future-of-rail-travel-in-europe
The city vision	Urban space is being reclaimed for pedestrian and other soft activities (not only transport)	https://medium.com/@irasanyal/activating-and-reclaiming-public-spaces-efaceffa1279#:~:text=Reclaiming%20urban%20public%20space%2C%20means,those%20spaces%2C%20at%20all%20hours
	“Density” is reconsidered as a robust urban efficiency criterion/dogma	https://www.researchgate.net/publication/294090560_Sustainable_Living_and_Urban_Density_The_Choices_are_Wide_Open



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	Dystopian cityscapes and mobility concepts are used as the basis for urban planning	https://newatlas.com/science-fiction-cities-future-urban-visions-architecture/55569/ https://www.inverse.com/article/18488-science-fiction-future-city-planning-dubai-skyscrapers-dystopia
Social interaction	Widening inequality gap	https://www.profgalloway.com/the-great-dispersion/
	Fear/Avoidance of crowded places	https://www.nationalgeographic.com/science/2020/09/coronavirus-will-we-ever-trust-crowds-again-cvd/
	Emerging awareness of the wide range of safety and security threats	https://ec.europa.eu/transport/themes/security/cybersecurity_en



ANNEX 2 – EXPLORATORY DIALOGUES BRIEFS

Exploratory dialogue 1 – September 9th, 2021 – 16:00 / 17:30

CET on Zoom

7KHPH \$XWRPDWHG YHKLFOHV

0RGHUDWRU \$QGUHD 5LFFL

6SHDNHUV

- *KDGLU 3RXUKDVKHP 81,=\$
- &ULVWLQD 3URQHOOR 32/,72

,QGLFDWLYH VFULSW

%ULHI LQWURGXFWRQ E\ PRGHUDWRU PLQXWHV

- ,QWURGXFWRQ WR WKH 5(%\$/\$1&(SURWLHFLQDORQWVHYW
SUHYLRQXS RUVW IRUHVVLJKW H[HUFLVHV
- 2EMHFWLYHV RI WKH H[SORUDWRU\ GLDORJXHV DQG LQ
- ,QWURGXFWRQ RI VSHDNHUV EULHI ELR QRWH
- 5XOHV RI WKH JDPH

6HWWLQJ WKH VFHQH RI WKH GLDORJXHU HPRGHUDWRU PLQ
LPPHGLDWH GLVFXVVLRQ

Automated vehicles DUH H[SHFWHG WR UHOHDVH SHRSOH IURP WK

GULYLQJ DQG DOORVZDWRN VGBVP XCKWLSDPHU HWLPDQFM RQW
DXWRPDWLRQ D UHDO H[SHULHQFH RI IUHHGRP"

2U LV LW D SDVVLEHQXWV HQRGHWURO HPRGHUDWRU "H,ISIRWHG DO
LQFUHDVH RI URDG VDIHW\ RYHUFRRPH FDQFHO RXW WKLV G

,W LV LQFUHDVLRQ\ DUJXHG WKDW QULXHVW DQWLYHKLFOHV
HQYLURQPHQWDO EHQHILWV LI WKHLDVGLIYXVLRQ VWLUDFFRPS

RZQHUVKLS WR VKDUHG PRELQW\ &GLQXWKLVRQLQGHU WKHL
&DQ RQH GUDJ WKH RWKHU" \$QG ZKDW IRXUWKLV DOR KLVVSHR

\$ YDULHW\ RI LQJUDLQHG FXOWXUDOLNQHGYDQXSHGUDYHQ D
IXQGDPHQWDO UROIHQEVKRIQXWKLORSHLFRORRORJLFD

- IHDU RI LQQRYDWLRQ
- IHDU RI SULYDF\ EUHDFKHV
- IHDU RI ORVLQJ FRQWURO
- LPSRYHULVKPHQW RI WKH KXPDQ GLPHQVLRQ RI WKH W
- HWKLFDO LVVXH

6KRXOG SROLFLHV IRUFHIXOO\ DGGUHQW WIRZDWHGDVFXQWXL
VKLIWV WKDW ZRXOG IDFLQDWH WKH XSMDSNHU RV \$S'H2U

WRZDUGV WKH GDQJHUV RI DQ ³DXWKRULWDULDQ VWDWH´"

,VVXH PLQXWHV

,V LW WUXH WKDW PRVW WHFKQRORJLFDQDQGQRYLWRIQPHQ
VXVWDLQDELOLW\ DUH LQ IDFW PRVW SOHSDRFXWLFQRORJIE



Exploratory dialogue 2 – September 16th, 2021 – 16:00 /

17:30 CET on Zoom

7 KHP Digitalisation

0RGHUDWRU \$QGUHD 5LFFL

6SHDNHUV

- %HQMDPLQ 'RFTXLU 2VERUQH &ODUNH
- ;DYLHU 7DFNRHQ (VSDFHV 0RELOLWpV

,QGLFDWLYH VFULSW

%ULHI LQWURGXFWRQ E\ PRGHUDWRU PLQXWHV

- ,QWURGXFWRQ WR WKH 5(%\$/\$1&(SURWLHFWDDRQWHY[W
SUHYLRXV WUDQVSRUW IRUHVVLJKW H[HUFLVHV
- 2EMHFWLYHV RI WKH H[SORUDWRU\ GLDORJXHV DQG LQ
- ,QWURGXFWRQ RI VSHDNHUV EULHI ELR QRWH
- 5XOHV RI WKH JDPH

6HWWLQJ WKH VFHQH RI WKH GLDORJXHU PPRGHUDWRU PLQ
LPPHGLDWH GLVFXVVLQJ

0RELOLW\ VHUFLFHV VZLWJHURJURSDUHHQFQJHRO , &
EDVHG VROXWLRQV ZKLFK DUH H[SHFWHG WR IHQWUHQGH
WKH HQYLURQPHQW DOKSHWURDPSDFHWRVDFWLYH HDVQGHKHS
PXFK DGYRFDWHG JRDO RI VHDPOHVVKWODMROHGV WKLV D
SHUVSHFWLYH RU DUWLQH RQWDFOMVPSDQGFDOGRQVUHGFK
DV D ORVV RI SULYDQWDFGHUHQDWLWDEWVLRQLBSRQWXQ
LQHTXDOLWLHV WKDW OHDYH VRPH SHRSOH EHKLQG"

,VVXH PLQXWHV GLJLWDO DQG JUHHQ WUDQVLWLRQ
3XUVXLQJ WKH 3WZLQ WUDQVLWLRQ' KFAVPRQVDFRPH D Z
,Q WKH WUDQVSRUWHFWLRQV WKHWHHDEVLJEWV DHDQGWKKH
JUHHQ GLPHQVLRQV OEVSRDWHQWKLHDFRQDQJHQWKHV WQRF
DQG WKHUHIRUH WKH QHHG WR LGHQWLI\ QHJRWLDWH WU
:KHQ LW FRPHV WR OHYHUDJLQJ LQGQYLWV RDSURRFRROH
VXVWDLQDEOH PRELOLW\ LV LW SRXSHRQWV DQOIRFWHQFH
GLJLWDO VROXWLRQV RU XSRQ HQYLURQPHQWDO FRQFHU

,VVXH PLQXWHV (OLIH



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6PDUW ZRUNLQJ RQ OLQH VKRSSLQJDEOQH R W KHU 3H OLIH
 GLJLWDOLJDWLRQ DUH RIWHQ SURPREVHGHIDV LGLOU WFRWO\ LQ
 VXVWDLQDELOLW\ LQFOXGLQJ LQFUHDILFHGHVDFHVRDQ G KL
 DUJXH WKDW WKLVXQGHVGHVVERQVDFHXLQFVWDDQFHVH

- GRHV WKH HDVH RIEVGL ELURDOKWHUQDFIEXQGHU DHFW D
 DQG ERRVW 3QRQ HVVHQWLDQ' PRELOLW\"
- -XVW LQ WLPH SUDFWLFHQJ3GHDDWLPDFDQZEVKDG VS
 HFRQRPLF EHQHILWV IRU WKH LQGXVWULSEXWQGRUHDV
 Y NP
- ORUH JHQHUDOO\ GLRHWWRQRGLWLDOLSYLW SDQVQHLZQ
 LQHYLWDEO\ OHDG WR[DRIHEXVDFRLODFH'DVH LQ WRQ
 ,V WKHUH VXFK D WKLQJ DV 3JRRG YV EDG HIILFLHQF\`"

,V VXH PLQXWHV 3DQGHPLFV DQGVWUXFWXUDO PRELO
 3DQGHPLFV KDYH VLJQLILFDQWO\ FKDQJHGRERLODQWQSDW
 VKRSSLQJ DQG SDVZRONHQV WRDHW ZHGHHQDQDQJHVERQ
 \$UH WKHVH FKDQJHV OLNHO\ WR EH VXVWDLQWHQZ"KHQ SD
 ZK\ QRW"
 3HRSOH KDYH GHYHORSHG D IHDU RI FURZLGHG WSDJLYH XES
 WKH VRFLDO EHQHILWV RI SK\VLFDQV PDELQYU'D\$OH QHVKH
 FRQYLYLDO OLIH"
 3ULYDF\ FRQFHUQVREOLVBWURQ WRHWKD UWRSEHU DREOHWRD
 XVH EHQHILW IURP GLJLWDO PRELOLWDLGHRYI EFHV E\$BW KSH
 RI DV ZRXOG DSSHU IURP WKH JOREDO LWSDUFDQRU HREO
 'R ZH YDOXH HIILFLHQF\ PRUH WKDQ SULYDF\"
 ,V VXH PLQXWHV 'LJLWDOLVDWLRQV DQGVWUXFWXUDO FHQWU
 'LJLWDO HQDEOHG WRSXWDEQV7VXQKSRVHWRIQFHPDQGRQJ
 ZLWK RWKHU ,&7 EDVFKGDVRORXULQVSDQVQLQJNDSVLDQDUH
 GHVLJQHG WR EHWWHU PHHW LQGLYGGEXLOQGHUHWKLV'RHV W
 REMHFWLYH" :LOO LW OHDYH VRPH JURQSMLEOKLQG YXOQ
 WHFKQRORJ\ XQVDYY\ UXUDO SRSXODVVERQV RQGDWKHU
 FKHDSHU" WR PRYH DURXQG ZLOODWDSERYXZHEQOSWELYD
 SODQQHUV GHFLVLRQSPKMHUVO! DQGLSHLSYDRYHGMHV !
 PRUH 3YLUWXDO' DSSURDFKHV"
 ,V DFFHVV WR GLJLWDO PRELOLWDFRQVWUXFWXUDOFRQSRKOLVWL
 SRVLWLRQ RI D VPDOO QXPEHU RI SURYLGHUV H J *\$)\$



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,VVXH PLQXWHV

%H\RQG SXUHO\ WHF\WQRZKDLFDDFDWRSWKHFDXGGSMLRGRU
GLJLWDO PRELWL\ VROXWLRQV"

:KLFK DUH WKH WKUHH FXOWXUDO IDFOV BQ WVKH DWX FZLHOV S
GHYHORSPHQW RI GLJLWDO HQDEOHG PRELWL"

5HFDS PLQXWHV



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Exploratory dialogue 3– September 23rd, 2021 – 16:00 / 17:30

CET on Zoom

7KHPH 7RZDUGV JUHHQHU WUDQVSRUW FKRLFHV
0RGHUDWRU \$QGUHD 5LFFL
6SHDNHUV

- \$QGUHX 8OLHG (56,/, \$
• 5REHUW %UDXQ ,+6

5RXJK_VFULSW

%ULHI LQWURGXFWRQ E\ PRGHUDWRU PLQXWHV

- ,QWURGXFWRQ WR WKH 5(%\$/\$1&(SURWHLFWDORQWHY
SUHYLRXV WUDQVSRUW IRUHV LJKW H[HUFLVHV
• 2EMHFWLYHV RI WKH H[SORUDWRU\ GLDORJXHV DQG LQ
• ,QWURGXFWRQ RI VSHDNHUV EULHI ELR QRWH
• 5XOHV RI WKH JDPH

6HWWLQJ WKH VFHQH RI WKH GLDORJXHU PPRGHUDWRU PLQ
LPPHGLDWH GLVFXVVLRQ

6LJQV W greener transport choices DUH HPHUJLQJ LQ (XURSH
,QGXVWU\ LV PDNLQJ FOHDQHU YHKLSFHUVRUHQW DVLQJO\
HOHFWURPRELQW\ FOHDQHU IXHOV

*RYHUQPHQW SOD\V OHO WR SRXWDO QW DQFSDVGLQ JWRXJW ERXQ
DOVR DW WKH ORFDO OHYHO WKURXJKS WFKHV UHQGHV LQJ R
LQIUUVWUXFWXUH

%XW FDQ WKLV EDVNHV RI RSSRUWXQJWHQVPRHEHQLMFWLY
WUDQVLWLRQ ZLWKRXW D PDMRU VGLRWEHQ LMKHXDWUW"WXQ
2U ± PRUH EOXQWO\ FDQ ZH VD\ WKDW WJRYHUHQPHQW DQG
SULPDULO\ SXVKHG QULQDUGR EL HDWFKDQW WQYLWURGH PQRV DUG
SURWHFWLRQ DQG WKH SXUVXDQFH RI D KHDOWKLHU OLIH
,VVXH PLQXWHV ± (QYLURQPHQWDO DQG KHDOWK FRQF

\$UH HQYLURQPHQWDO DQG KHDOWK FRQFHUHQVSRGDQJ D
VKLIWV"

\$UH SHRSOH UHDOO\ GULYHQ E\ NQRZOHQGH DQG HYLGHQ
HQYLURQPHQWDO EHQHILWV RI JUHHQ FREROLFJHW LRUQ LW RL W
VRFLDO QRUPV WKDW GULYHV WKHP"



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: LOO LQLWLDWLYHV) XVLXUH³) WLDQDQVQREBNHQ DWGHIIPHUGLXP O
 WHUP" \$QG LI VR GRHV WKLV FRQWURXQVDOHGWRIHXHQFHUOL
 DZDUHQHV DQG PRWLYDWLRQ"
 &XOWXUDO FKDQJHV WDNH WLPH EXWQWKH\WEDWHD[SHFW
 VWUXFWXUDO :LOO GHPDQG VLGH SRQFLGMDVWVFKDWXDU
 FKDUJLQJ VWDQGDUGV ± EH QR ORQJHFXQVXUV DSUHRQDEK

,VXXH PLQXWHV ± \$FWLYH WUDYHO
 7KH VCLIW WRZDUGLVDFWDMR UWFDPYSHQHQW WRDQWLWURQ
 \$FWLYH WUDYHO LV XVXDOO\ GHILQHGDFFWLYULDW\H ZDVKDLQ
 F\FOLQJ HWF JHGHQDILWVQV LQR FELDQDQHQYKHDFQPHQW DQDQV
 +RZ GHHS DUH WKH FKDQJHV DQVLYDQGHVWVWVH DDFWUDTX
 YLVLEOH PRYH WR DFWLYH WUDYHO"
 2Q WKH RWKHU KDQG WUDYHO FKRLFQW FDRQZKHFLQWVXHQ
 WUDYHOHU LV DOFRVZHG WPDIEHQ³WVXQDQDQVGLRQV LRSWHGLVWR
 FKDQJHV RI SODQDWHFW, QVSKDLW FVHFDLQV XFW³DDWQDQO
 DQG FRQWURO«
 +RZ LV WKH DGYHQW RI PLFURPRELQVDFWVXVXHQVIRKHV
 SULYDWH RU LV LQV±PBRZBUKEXQVLDQXWHDFFRULYSHVPRGH
 ZDONLQJ DQG F\FOLQJ" 2U GRHV LQHFREYHWZDQHEZWKUD
 PRGHV"

,VXXH PLQXWHV 3DQGHPLFV DQGVWUXFWXUDO PRELQ
 7R ZKDW H[WHQW LV WKH SDQGHPLDQVDFUHLKLYLQKNDQ\FKBDQ
 D³QHZ QRUPDQ' ZKHUH VXEVDQWLDQ "PRQDQVWLIWV EHF
 ERXQG WR EH UHDEVRPUEGLQVDFKHVDFWVSHFRFHFHUHQV VDRHEH
 RYHUFRPH"
 \$FDVH LQ SRLQW WKH UROH RI DLU WUDYHO DIWHU FRYL
 • 5LVLQJ DZDUHQHV DQIRVW SHULQDQVYRFDQHYLVWUDQVWUDWLR
 • %XVLQHVV WUDYHOV YV =RRP PHHWLQJV
 • %DQ RI GRPHVWLF IOLJKWV ZKHUH DQ DOWHUQDWLYH V
 • 1LJKW WUDLQV EDFN LQ IDVKLRQ"

,VXXH PLQXWHV ± *HQGHU LVVXHV



,V JHQQGHU D PHDQILQJWXIOHYWUDDQFQWERQLWR" JUHHQHU PR
,I VR GRHV WKLK KDYH WR GR ZLWKFHMQGHU VSHFLILF YD
,VVXH PLQXWHV
%H\RQG SXUHO\ WHFKWRZKDLWDDDFWRSWKFRWUDGKLVGRQ
WRZDUGV JUHHQHU WUDQVSRUW"
:KLFK DUH WKH WKUHH FXOWXUDO IDDFWRQWVWKDWUHQV
5HFDS PLQXWHV



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Exploratory dialogue 4– September 30th, 2021 – 16:00 / 17:30

CET on Zoom

7KHPH 7KH IXWXUH UROH RI WKH FDU

0RGHUDWRU \$QGUHD 5LFFL

6SHDNHUV

- -HQV 6FKDGH 78'
- 6WHIDQ *|VVOLQJ /XQG 8QLYHUVLW\

5RXJK VFULSW

%ULHI LQWURGXFWRQ E\ PRGHUDWRU PLQXWHV

- ,QWURGXFWRQ WR WKH 5(%\$/\$1&(SURWHLFWDORQWHY(W
- SUHYLRXV WUDQVSRUW IRUHVLJKW H[HUFLVHV
- 2EMHFWLYHV RI WKH H[SORUDWRU\ GLDORJXHV DQG LQ
- ,QWURGXFWRQ RI VSHDNHUV EULHI ELR QRWH
- 5XOHV RI WKH JDPH

6HWWLQJ WKH VFHQH RI WKH GLDORJXHU PPRGHUDWRU PLQ
LPPHGLDWH GLVFXVVRQ

3ULYDWH FDU XVH LV UHFRJQLJHG DSDFDWLQJVLJQLILFDQ
HQYLURQPHQW KHD,OWKH QDQW DNH WRQH VVJLQILFRQWX
XUEDQ VDFH DQG DIIHFWV TXDOLW\ RI OLIH LQ JHQHUDO
\$FFHVV UHJXODWRUQ VQLWDBWLYHFRBERELVLDQDQ WR
PDNH SXEOLF WUDQVSRUW BBUHVDWWRPHQRVWKHVH FRQ
%XW SULYDWH FDU RZQHUVKLS DQG XWHUW GDHSDFDLQVDD
NHHS JURZLQJ

,V D UDGLFDO VKLIW DZD\ IURP FDUZKDFKH³DNH VVLCFXBMUVS
VKRXOG EH SURPRWHG WR DFKLHYH LW"

,VVXH PLQXWHV ±)UHHGRP

'ULYLQJ D FDU LV SHISEHVLVHLQDVIDIYHUGRP³WKHFRQWURO
FDQ GHFLGH ZKHUH ZKHQ DW ZKDW WSRHPRYHQDZKQZK
%XW LV WKLV QRW D GHOXVLRQ ZKRQ WKLFHU DQJVVHVWR
SDUNLQJ VSRWV LBSRWDFHGLHQDWRSURYDORQJ EZLRWKKH
KLJK HFRQRPLF FRVWV"



,V 3DJHQF\` D IXQGDPHQWDO GHWHUPLQDWRUHQWDO QPR EIHOLWVH
HYLGHQFH RI UHDOLELWV WERWQGLQGLQWILQXIDQHQSS FROOHF
GHFRQVWUXFWLQJ WKH FXUUHQW SDUDGLIHU DQG FRQYHQQ
WR PRYH QRW WR GULYH"

,VVXH PLQXWHV ± FDU RZQHUVKLS

,W LV RIWHQ DUJXHG WKDW EHKHLOLQV LQKSHU SUDWIDIOFDQF XVR
WKH 3VWDWXV V\PERQ WR WLRQ FDUW DQW WKH WLFXHQFHT XV R
JLYH XS RZQHUVKLS

7KH HPHUJHQFH RI VKDUHG YHKLFOHV DQRSWKLPUMLUFDQ
LQWHUSUHWHG DV D SDUPLVLDQJVDUHQDPSXUZYOOHQWE \$Q
ZKLFK 3VRIW VSRWV` LQ SHRSOH VYDUXHW DQGRSHWKHSW
KDSSHQ"

2Q WKH RWKHU KDQG LI LW LV VXVFDLQIHGKDUKHG JHQHUD
VFKHPHV FRXOG OHDG FDU XVH WR EHFRPELQDEQWHJUDO
PXOWLPRGDO DQG SIDWQHUVQPREKOLWZRXQXQVHKRQW XDUV
SHUVSHFWLYH RI SDVWXQFKRQWLPDWHDO\ VKLQW WRUDQDUF
VFKHPHV EH HQRXJKDWRWFLXUEPSDFHWGURI DXWRPRELQW\"

,VVXH PLQXWHV ± 7HFKQRORJ\

7HFKQRORJLFDQ LQQRSDUWLHQWPRWV SUWRIZDUGVSDW
VXVWDLQDELOLW\ FOHDQHU SURSXOV, RCE DYHHGLQRIE LDXWF
FDQ XQGRXEWGQ\ EULQJ LI RQO\ LQFUHQDQWDDOLBQD
VDIHW\ UHODWHG SHUQRSDQVFWWVHW DQG VHUULFHV

%XW LV WKLXOWLPDWHO\ GHFLVZDYGZUWKV LFRQRRWIDGIX
RI WKH FDU EDVHG PRELOLW\ FXOWXHQ\ SQHFWXQWVLDQ WK
UDGLFDQ VKLIW DZD\ IURP DXWRPRELQW\"

\$QG HYHQ ZRUVH FRQGSUHQVQVORJHQLHEDXQGS HUYHFUWH
ZKLFK ZRXOG XOWLPDWHO\ PDLQO\ VHWLYH WQIXQWUHWV
WKDQ WKR VH RI VRFLHW\"

4XHVWLRQ PLQXWHV ± 3DQGHPLFV



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:KDW ZDV RE VHUYHGD URQ DJRD CHZ DHSURFKUDQWRPHYQWG ZLVWQ
FDU RZQHUVKLS DQGD RRQJ HWKSHHFRBQQD\RVZHWV WRDEHWQ
SDUWLDOO\ RIIVHWRELGWFKUHRZGJHG WRQDQVSRUW VROXWLR
7R PLQLPLJH FRQWDFW ZLWK RWKHUVDFBQ\LSHW\$OHUDBEQ
YHKLFOHV 6LQFH WKH RXWEUHDN RIV&SPU'WDWIKHQXVGR I
FDUSRROV KDV GHFOLQHG VLJQLILFDQWO\ ZRUOGZLGH
\$UH &29,' UHODWHGOERQFWRUQWDFQDQVHWZKSHUHYDWDQ FDU
FROOHFWLYH PRGHV EXW DOVR VKDWKGUEDNV DUH SHUF

4XHVWLRQ PLQXWHV

%H\RRG SXUHO\ WHFKQRORJLFDQ DVSHFVDFVZKULFKWBDWV
SURYH PRVW FULWLFDO LQ VKDSLQJ WKH IXWXUH RIFDUV

5HFDS PLQXWHV



Exploratory dialogue 5– November 11th, 16 :00 / 17:30 CET on

Zoom

7KHPH /LYLQJ ZRUNLQJ DQG VKRSSLQJ SDWWHUQV
0RGHUDWRU \$QGUHD 5LFFL

6SHDNHUV

- \$ODLQ /†+RVWLV 8QLYHUVLVp *XVWDYH (LIIHO
- &ULVWLQD 0DUROGD

,QGLFDWLYH VFULSW

%ULHI LQWURGXFWRQ E\ PRGHUDWRU PLQXWHV

- ,QWURGXFWRQ WR WKH 5(%\$/\$1&(SURWHLW DORQWHY[W
- SUHYLRXV WUDQVSRUW IRUHVLJKW H[HUFLVHV
- 2EMHFWLYHV RI WKH H[SORUDWRU\ GLDORJXHV DQG LQ
- ,QWURGXFWRQ RI VSHDNHUV EULHI ELR QRWH
- 5XOHV RI WKH JDPH

6HWWLQJ WKH VFHQH RI WKH GLDORJXHU PPRGHUDWRU PLQ
LPPHGLDWH GLVFXVVRQ

/LYLQJ ZRUNLQJ DQG VKRSSLQJ SDQGLQJ DQV(DRUPSLQJ DQ
RXU XUEDQ FRQWH[W

\$V ,&7 EDVHG WHFKQRORJ\ OS\HU PWRWWR FROXWRQV DU
EHFRPH WKH GHIDXQW SRSXOQ VRXSPDWLQ\ VEDULLQJ DQG
RYHUDOO HILFLHQF\ JDLQV

3DQGHPLFV KDV FHUWGLQ\ DFBIEHDOHWLQV LPRBKDQJH EX
VWUXFWXUDO WUHQG ZDV YLVLEOH BQRQDEWLROHDZKQFK V
FDQQRW H[SODLQ

7KH LPSOLFWRQV DUH IDU UHDFKIDQJ WKH XDIHHFW XUE
UHTXLUPHQWV DQG PRVW LPSORJWDQV RISSRUTX DQLWLH
,VVXH PLQXWHV ± XUEDQ ³PRGHO´

:KLFK ³PRGHO´ DUHWKIHDKS IPDMRURQ QG IVSLHWLJH QDQ\ R
\RXQJ JHQHUDWRQV DOLJQH ZLWK"

- 6XEXUEDQ GZHOOLQJ TXLHW PRUH LQGRRU DQG RXV
- ,QQHU FLW\ GZHOOLQJ ³ZKHUH WKH DFWLRQ LV´
- 5XUDO HVFDSH UHWXUQ WR QDWXUH
- PLQXWH FLW\ PXOWL QRGDO FLW\



\$UH WKHUH DQ\ UREXVW FKDQJH IDFWRUWKWKCHWZEDQ KHO
IDYRUHG LQ WKH ORQJ WHUP"
,V VXH PLQXWHV ± &RPIRUW YV FRQYHQLHQFH
(IILFLHQF\ LQ WKH JXLVH RI ³LQGLRLGX DOKFRFDLHQ GHUQFH
RI FKDQJLQJ SDWWHUQV
7R ZKDW H[WHQW LV HIILFLHQF\ SXUQGHG DOWWDOHYD[SHQW
DQG DVSLUDWLRQVLEBWKODOWHKE LRRPSRWWDQVOPRDWV
RYHUDOO FRPPXQLW\ OHYHO HTXLW\ FRQYLYLDOLW\ "

,V VXH PLQXWHV ± YDOXH RI WLPH
\$ZDUHQHV RI PRELOLW\ LQM XVWLFH LV D JURZLQJ
/RQJ FRPPXWLQJ WLPHV LQ SDUWLFXODUWUHHFRFRWLSLIIH
JURXS DQG DWWHQWLRQ LV JURZLQJHFDOLWLVWLFNHOLV
8UEDQ GHQVLW\ KDV EHHQ V\ VWHPDWLXFDONHUHTXDWHG ZL
DFFHVVLELOLW\

,V XUEDQ VSUDZO WKH XQGLVXWHG FXESULHWLVRXHG W
&DQ SRO\FHQWULF FLWLHV KHOS UHGXFHQJ PRELOLW\ LQM

,V VXH PLQXWHV ± YDOXH RI VSDFH
7KH PDVVLYH VKLIW WRZDUGV UHPRVHDFWHYQWDLHOW ZRUD
WKH DYDLODELOLWFRIEHGBEMVGDSONPSL:KHOMFRIRQRHVH
WZR H[WUHPH DOWHUQDWLYHV LV PRUH OLNHO\ WR SUHYD

- \$OWHUQDWLYH GWKUHPRWW WRZDUGV DOLIHVLVVKHUH V
WKHUHIRUH QHFHVVDU\ WR UHGVLVQ CRXELMSLDFHRUDGHU
WR HQVXUH FRPIRUW DQG HIILFLHQF\ HLOWKWHWPHGLXP
PDUNHW XQGHUJRHV D PDMRU VWUXFVXWDO KKDQH Z
GHPDQG ZKLOH RIILFH VSDFH ORVHV YDOXH
- \$OWHUQDWLYH FRQILQHPHQWV DQG ORFNGRZQV KDY
VRFLDO FRQYLYLDO GLPHQVLRQV RIOPVWHQXUDFVQYL
DFFHSWDEOH TXDOLW\ RI OLIH 5HPRHGHVZRWK BQG HGX
HVVHQWLDO DQG DHPDMLLOLW\VRDUSHRULWDOQW ZLWK PD
UHDGMXVWLQJ RI WKHLU DYDLODEOH VSDFH

:LOO XUEDQ H[SDQVLRQVGLRQYRIWKUHDFWVSRUWQLQIFRDELOLW\W
VHUYLEFHV RU WKH RWKHU ZD\ DURXQG "

,V VXH PLQXWHV



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%H\RQG SXUHO\ WHFKQRORJLFDO DVSHF WDFWZKULF KWIDM V
SURYH PRVW FULWLFDO LQ GHWHUPRQHQ JIXQGUHKSISWQH

5HFDS PLQXWHV



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