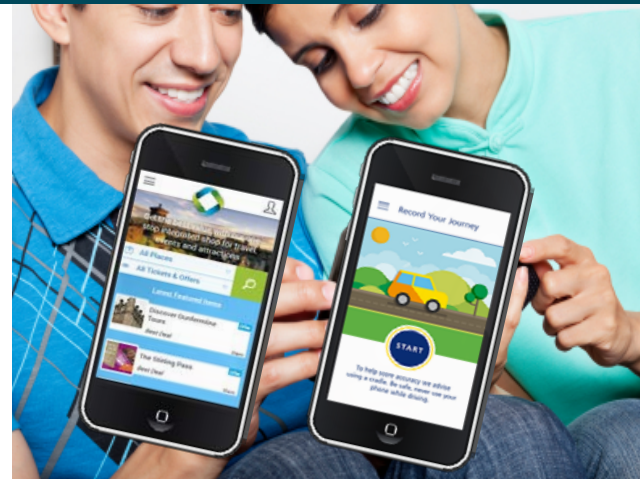
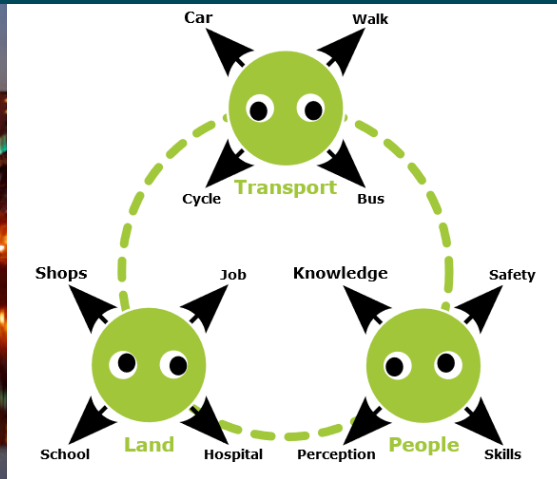


The Use of Accessibility Indicators in Planning and Investment



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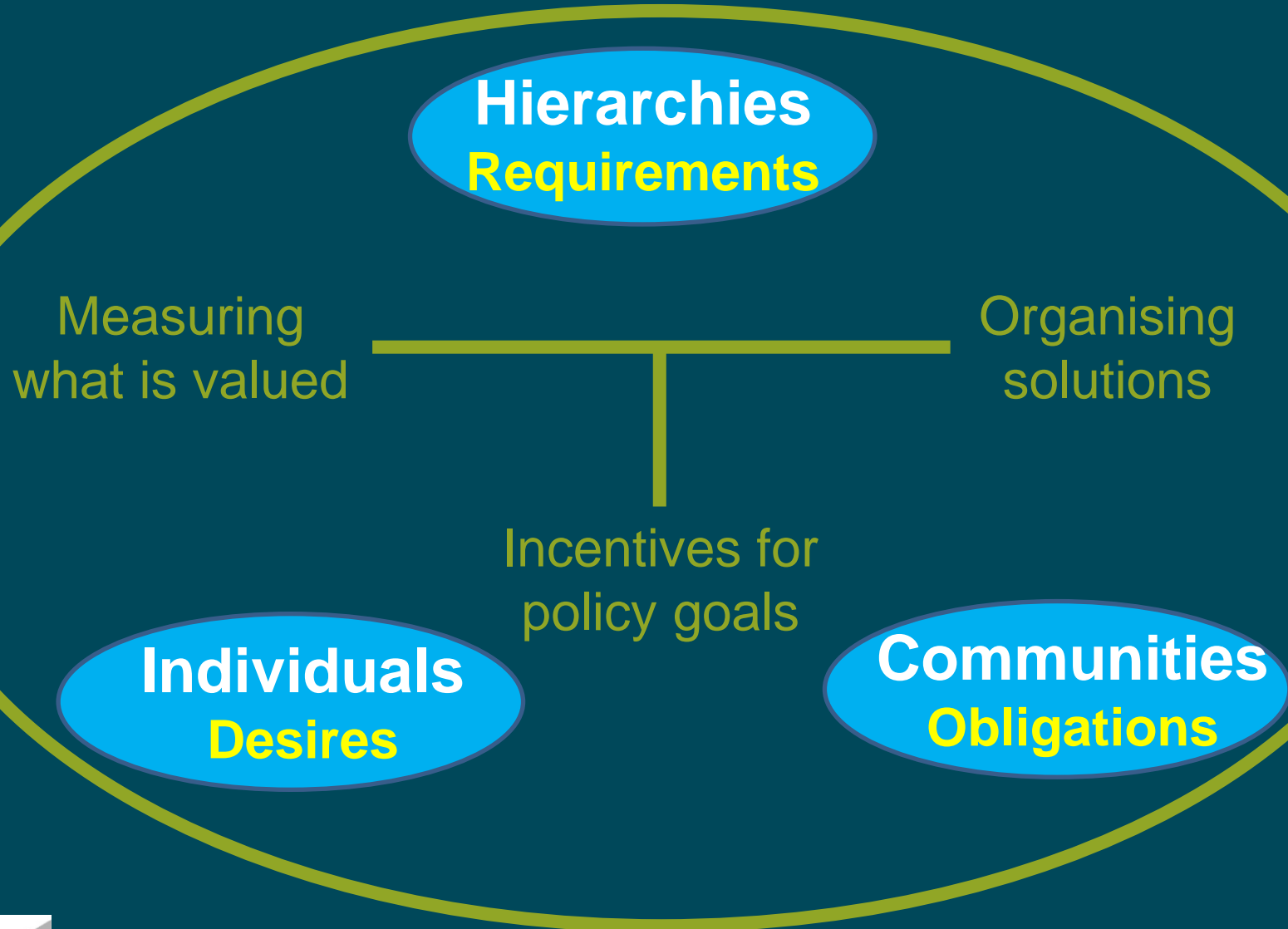
Accessibility Measures as Dashboard for Progress

GDP was contrived in a time of deep crisis....an answer to the great challenges of the 1930s..... we need an array of indicators to track things that **make life worthwhile**..... the scarcest good of all “**time**”

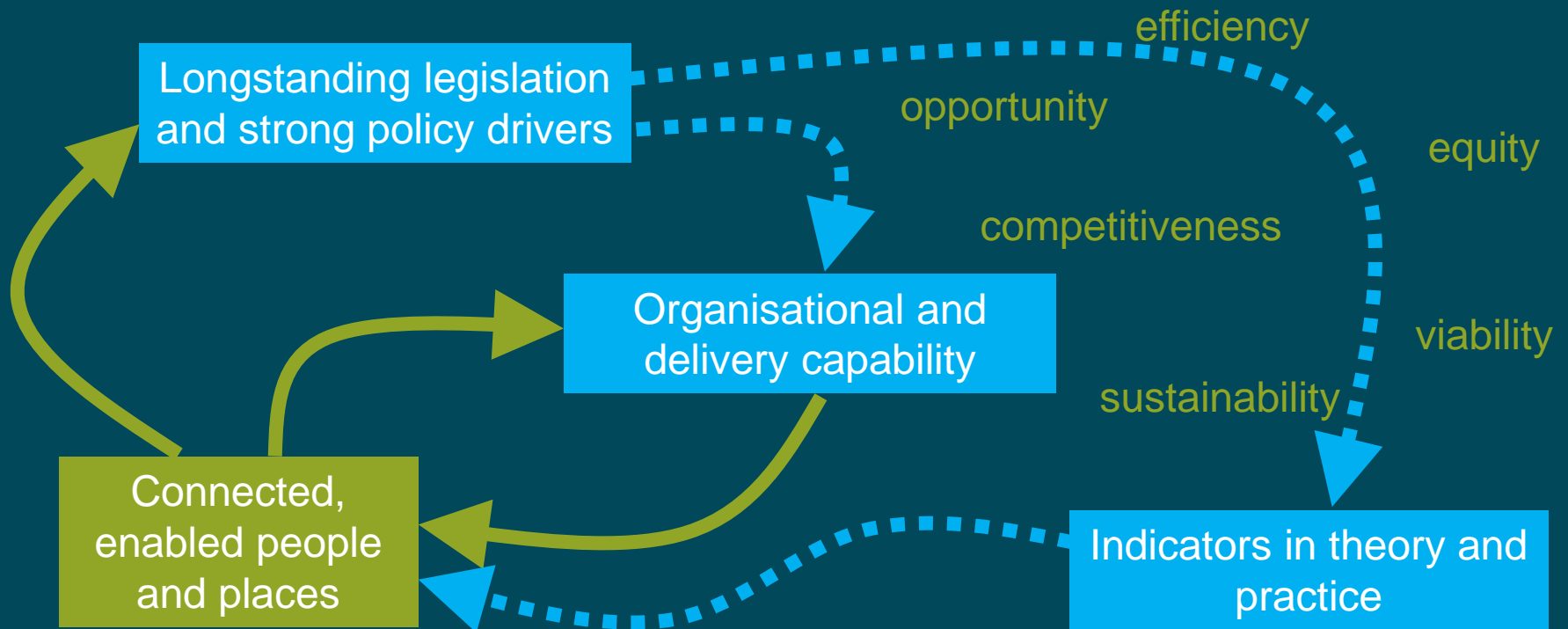
Utopia for Realists pp122/123 Rutger Bregman 2017 (or 2014 in the Netherlands)



A Social Model of Accessibility

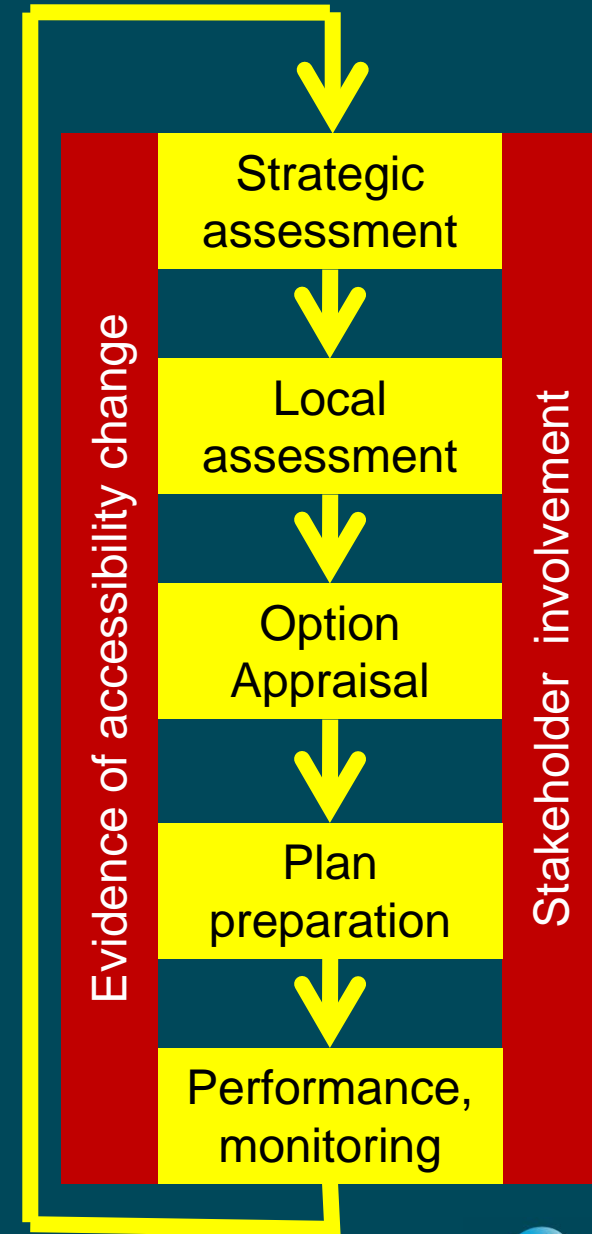


Resolving Accessibility – Mapping Policy and Organising Delivery



Local Authority Transport Plans in a National Policy Context

- Approach
 - **Strategic** national indicators based on travel time (2003-2017) www.accesstoservices.info
 - Several hundred **local indicators** based on cost, time/scheduling, information/training, safety/security, physical/infrastructure, environment/quality (rarely followed through)
- Planning and Investment
 - Financial incentives through **investment programmes** (LTP, LSTF, access fund, smart)
 - Transport **appraisal** – social opportunity, equity/distribution, stated/acceptability, expressed/business case (used tactically)



National GB Indicators

- Trip purposes

- Jobs, GP/health centres, hospitals (by service offered and number of patients), education (primary, secondary, further, higher), shop, post office, bank, leisure, park, pharmacy, legal services, pub, transport nodes (bus , rail, junctions)

- Opportunity measure

$$A_i = \sum_{j=1}^{j=J} O_j \exp(-\lambda .c_{ij})$$

- Number of opportunities within time thresholds appropriate for the trip purpose
- Continuous measure with λ calibrated using NTS

- Catchments by population

$$A_i = \sum_{j=1}^{j=J} P_j \exp(-\lambda .c_{ij})$$

- Segments - Car/non car available, educational attainment, poverty, employment status

National GB Indicators – Learning from Practice

- Sensitivity to change
 - Accessibility changes more rapidly due to people and places than transport
- Keep it simple
 - Why composite indicators of opportunities, utilities, total travel time, etc did not get far
- Investing in capabilities
 - Evidence linked with accountability - e.g. equity
 - Investors and funders - **follow the money**

Linking Measures of Access to a Delivery Objective

- All accessibility measures are imperfect and context specific
 - There are many variables that can be measured – and many that can be ignored – so accessibility analysis can produce almost any result by **choosing what to measure** and what to ignore
 - However most measures are informative and multiple measures can be used in combination
 - Some measures enable successful business models and these are the most useful ones in practice



Delivery Aims and Types of Indicator

- **Utilising opportunity** - Time, cost, safety, comfort, and quality of access to opportunities (jobs, education, leisure, etc)
- **Securing Equity** - Ratio of access to opportunity for social groups (incl. car/non car)
- **Enabling people and places** - Walk access to local facilities, local connections, skills etc.
- **System level connections** – Expanding scope, organising sharing (e.g. freight consolidation, shared DRT)



Growing the Access Economy

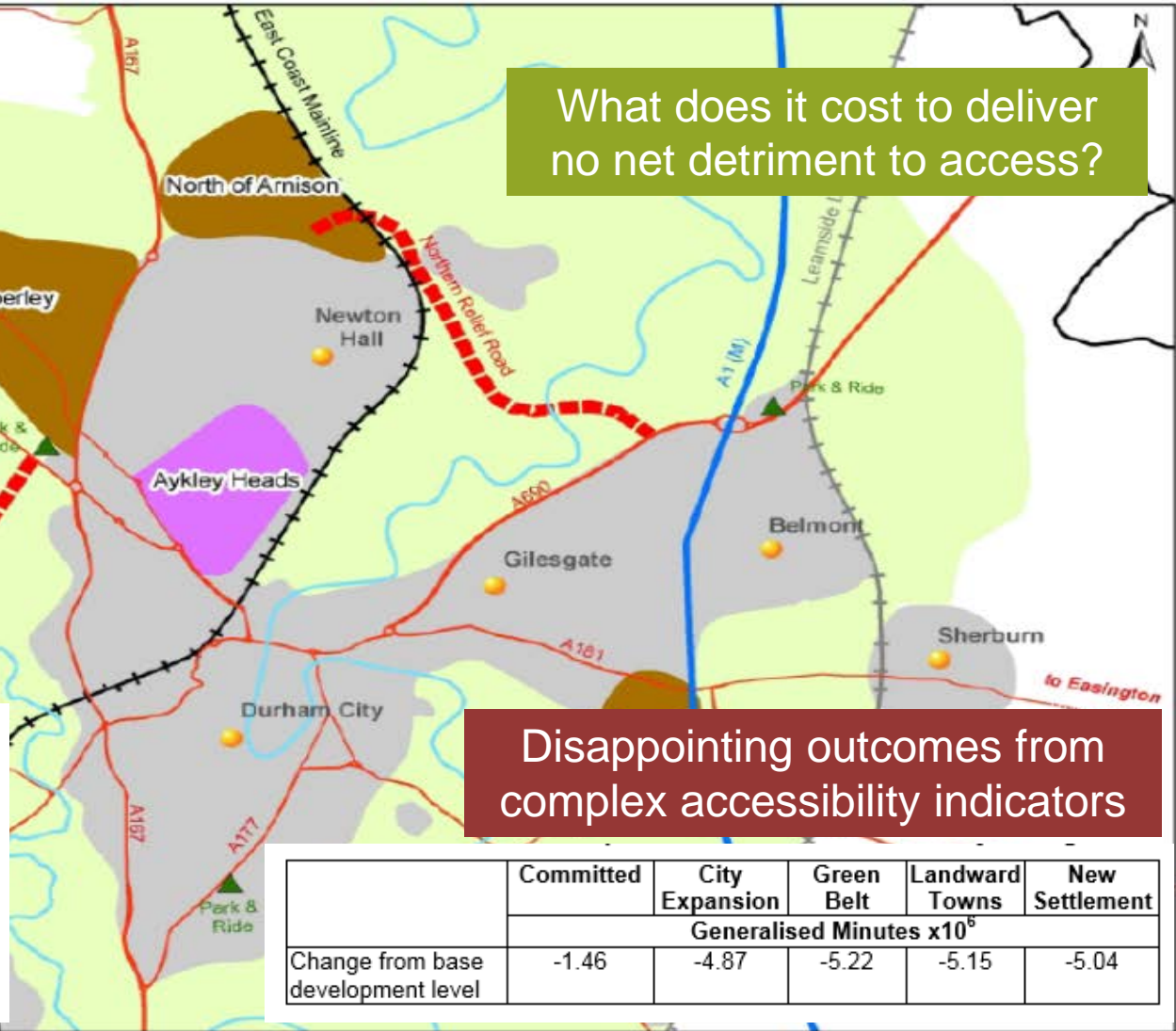
- Case studies in **measuring what is valued** and delivering successful **business models**
 - Value from **abundance** – not just scarcity - through case studies in access by walking
 - A stronger focus for government in wealth **distribution** through case studies in incentives for equitable access to opportunity
 - Where a **social** model of delivery is driven by enforcing regulatory requirements, organising communities, and enabling individuals – from case studies in auditing and enabling access

Land Use Planning Business Model

What services can be reached by walking in 400, 800, 1600 and 3200 metres?

What does it cost to deliver no net detriment to access?

What is the ratio of car to non car access to essential services?



Disappointing outcomes from complex accessibility indicators

Location	Ratio
City centre	1.5
Town centre	2.5
Edge of town centre	3
Edge of town	4
Out of town	6
Rural/ remote	>10

Table 2 (from DETR 1995)

	Committed	City Expansion	Green Belt	Landward Towns	New Settlement
	Generalised Minutes x10 ⁶				
Change from base development level	-1.46	-4.87	-5.22	-5.15	-5.04

Access as an Indicator of a Sustainable Place

- Walk/Journey times to a basket of services
 - Sustainable Cities Index
 - FFTF
 - State of the Countryside
- Travel time/cost factored by frequency of trip

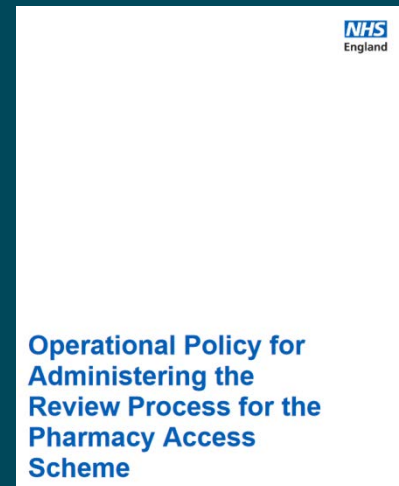
ranking for Quality of Life

City	Employment	Transport	Education	Green space	Healthy life expectancy	Weighted ranking for second basket
1 Brighton and Hove	15	20	19	19	20	74.4
2 Edinburgh	20	10	20	9.5	18	62.8
3 Bristol	18.5	1	15	20	16	36
4 Cardiff	18.5	15	18	5	13	55.6
5 Plymouth	17	5	11	16	17	52
6 London	13	15	10	1	18	51.8
7 Leeds	14	5	6	13	14	49.6
8 Manchester	12.5	14	14	14	4	45.2
9 Newcastle	11	17	17	15	6	44.8
10 Wolverhampton	14	14	1	18	7.5	38.8
11 Leicester	5	18.5	2	12	10	38
12 Nottingham	6	8	7	6	7	37.2
13 Sheffield	16	8	10	4	8	36
14 Bradford	12	10	5	11.5	11.5	32.4
15 Birmingham	1	11	4	14	9	30.4
16 Coventry	2	2	2	1	15	30
17 Glasgow	8	3	12.5	9.5	1	27.2
18 Liverpool	3	16	6	7	2	27.2
19 Sunderland	10	5	8	6	3	25.6
20 Hull	2	17	3	3	5	24

“Leicester has undergone a transformation from 14th place four years ago to second. Edinburgh was ninth and Glasgow was 19th”

Who Pays for Accessible Services?

- The travel time and cost of access is valued when **accountabilities** of service providers are clear
 - Successful delivery for employability, pharmacies, hospitals/medical centres, legal services/courts, retail centres....
- Indicators in practice
 - Times, costs, distances, turnover, activity
 - Provider willingness to pay for access
 - Customers willingness to accept



Reframing the Personal, Social and Commercial Value of Access

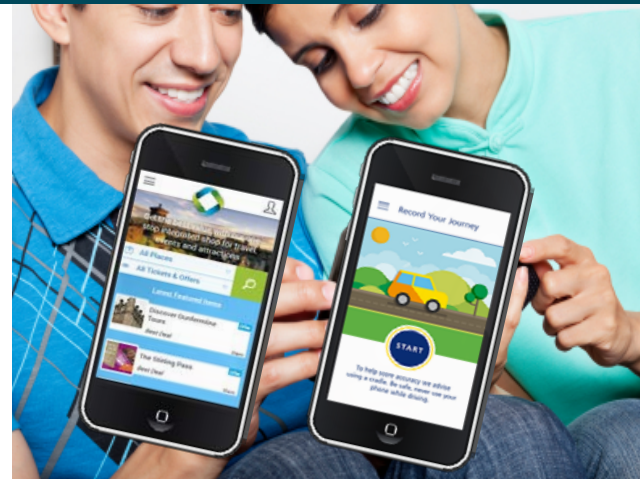
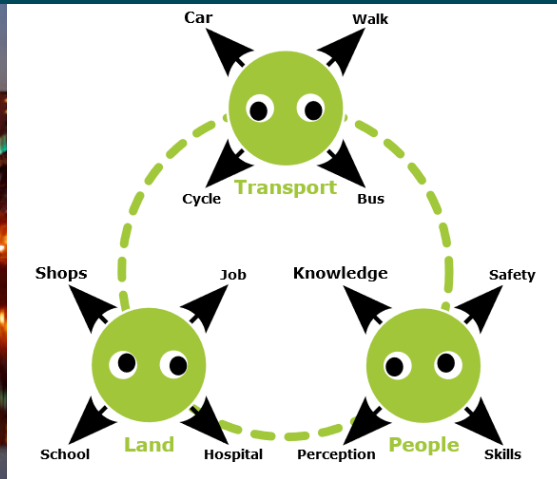
- Resolving the value of accessibility through personal accounts
 - Everybody is an expert in their own access
 - Link personal preferences with social goals to make the most of capabilities
 - Alternative currencies to secure social benefits – “access points”



Expanding Successful Business Models

- Measure what is valued
- Identify who is responsible for **incentives** for success and **penalties** for failure
- Indicators and measures to date:
 - Largely cost and time for target people groups and categories of service provision
 - Social choices resolved by budget holder
 - Personal choices resolved through accounts
- Towards **trust** in accessibility indicators?

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