Digital India
Power To Empower

सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF HOUSING AND URBAN AFFAIRS

स्वच्छ भारत
एक कदम स्वच्छता की ओर

WHAT IMPEDES PT/NUTP?

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13th Urban Mobility India Conference 2020

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Needs of Personal Motor Vehicle Users

1. **Door-to-door service**, wherein they can move from their immediate point of origin to their destination without the need for transfers

2. **On-demand availability**, so that they can travel when they want to and are not constrained by the fixed schedules of a public transport system

3. **Comfortable rides** that assure them a seat and do not require having to jostle with crowds

4. **Not having to stand in queues to buy tickets** for a bus, train or metro ride

5. **Speedy travel**

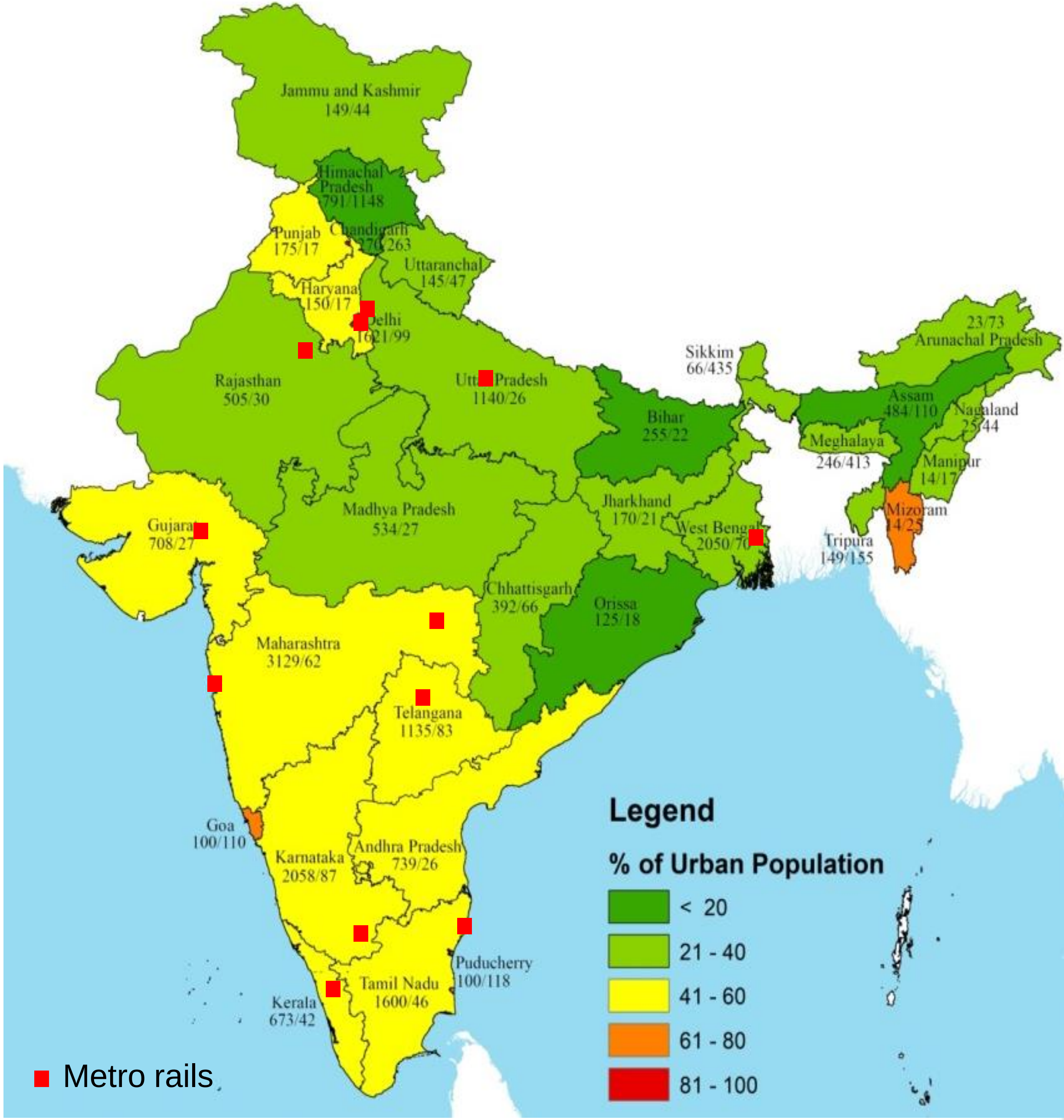
6. **Personal safety and security** These commuters are also willing to pay a higher price for these comforts.

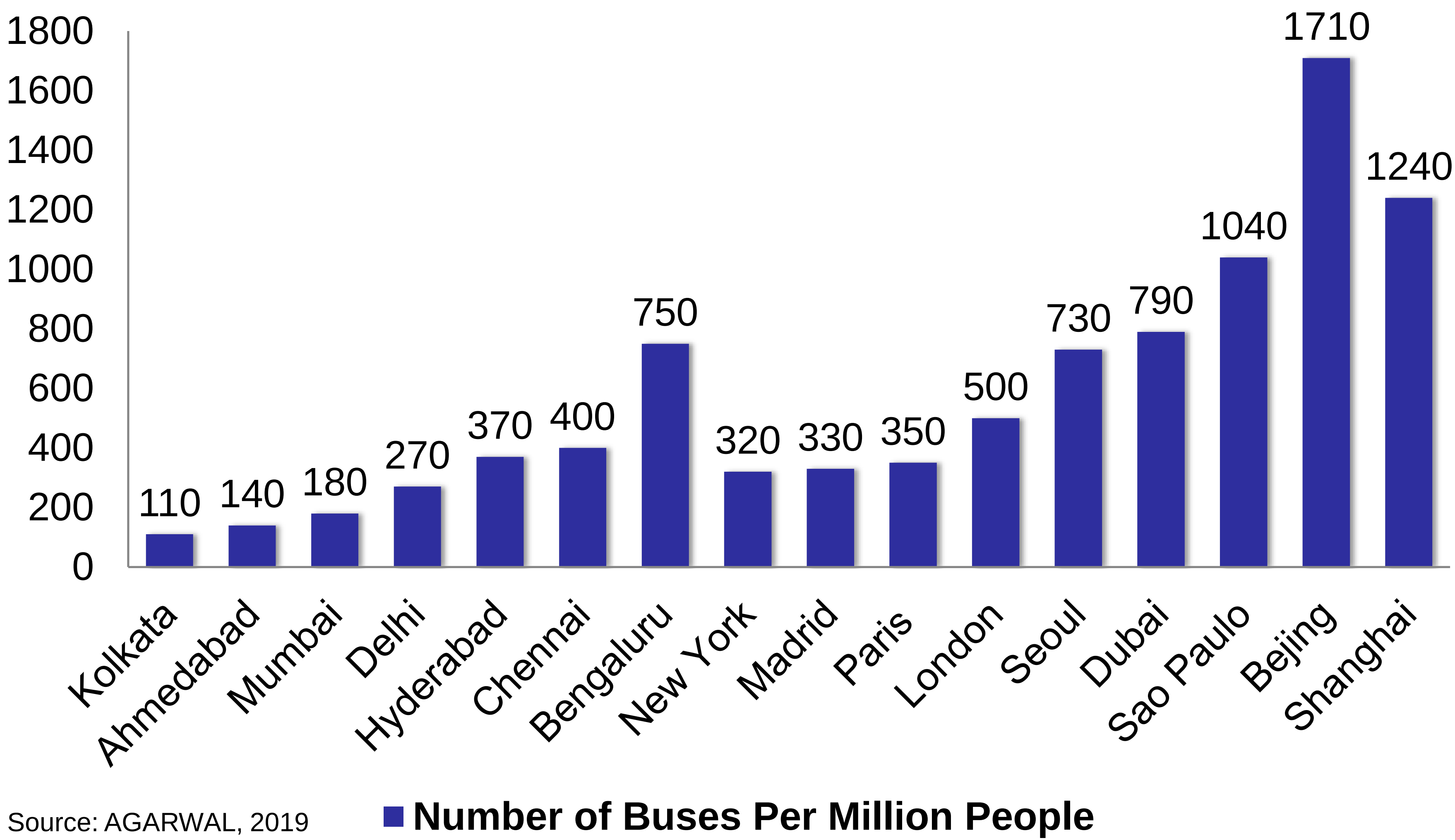
Source: AGARWAL, 2019

NUTP 2006

JnNURM,
Smart Cities
AMRUT

Metro Rail Systems





Source: AGARWAL, 2019

Urban Transport Challenges

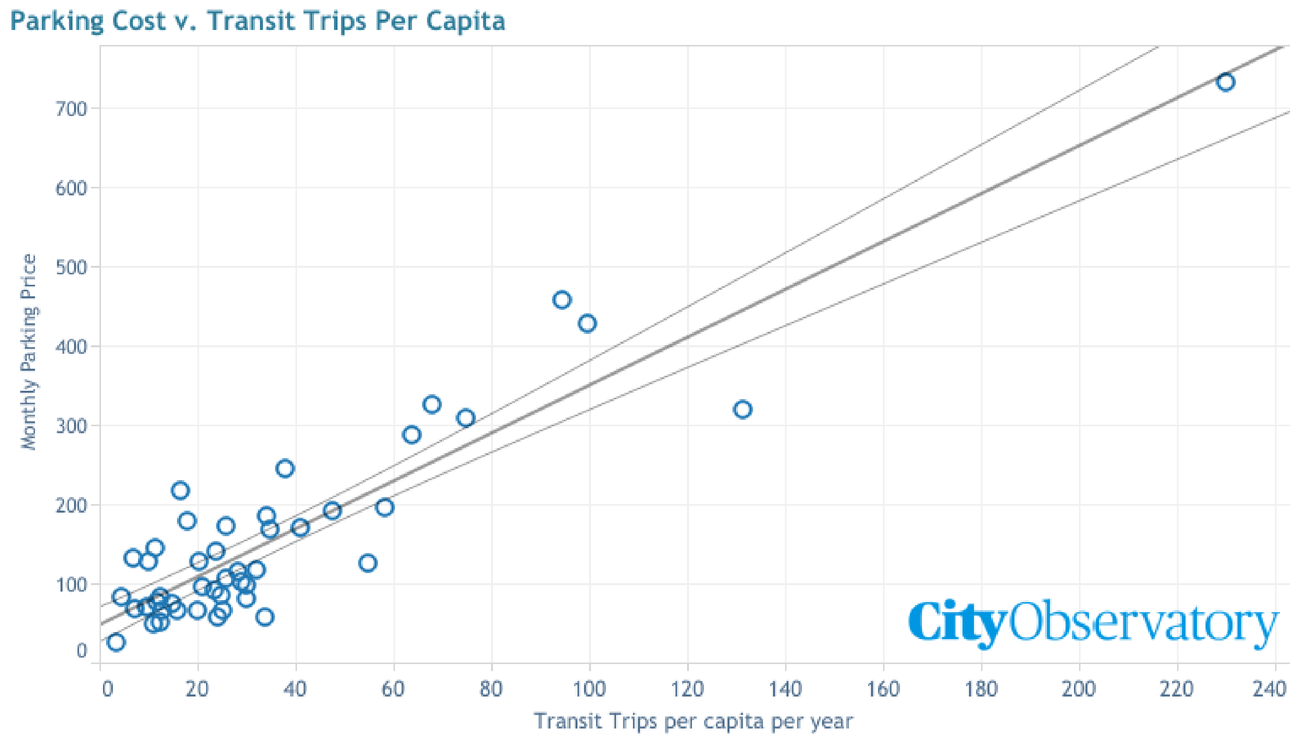
- Lack of land use transport integration
- Lack of multimodal integration
- Slow progress of technology adoption
- Open data management information system
- Institutional Inadequacies
- Financing of urban transport – Every one loves a good metro
- Parking is our birth right

Parking Pricing and Transit Usage

There's a very **strong positive correlation** between transit rides per capita and parking rates.

Cities with **higher parking rates have more transit rides per capita** than cities with lower parking rates.

The statistical correlation between the two measures is extremely strong: **the coefficient of determination (R^2) is 0.83**



Parking Markets; Who Pays for Parking?

Ownership	Typology	Users	Land Use
Local authority controlled: (Municipal)	On street	Employees & **Visitors**	Commercial/Mixed& Public and Semi-public
	Off Street MLCP	Employees & **Visitors**	Commercial/Mixed & Public and Semi-public
	Off street Surface	**Employees & Visitors**	Commercial, Mixed & Public and Semi-public
Other government Authority	On street	Employees & **Visitors**	Public and Semi-public
	Off street Surface	Employees & **Visitors**	Public and Semi-public
	Park and Ride	**Employees & Visitors**	Public and Semi-public/Mixed
Privately owned	Off street	Employees & **Visitors**	Commercial/Mixed
	Off street	Visitors	Residential
	Off street	Residents	Residential

Mode	*Tvij (VOT for in vehicle time)	*Twij (VoT for Access Time)	*Ttij (VoT for Waiting Time)	Fij		Fj	Twij (VoT for Egress Time)	Total Cost	
				(Fuel cost based on the mileage)	Fare	(Parking Charges)		With Parking Charge	Without parking Charge
Diesel Car + Metro	**18.48**	**8.4**	**3.36**	**12.56**	**50**	**64**	**1.7**	**158.5**	**108.5**
Petrol Car + Metro	**18.48**	**8.4**	**3.36**	**18.5**	**50**	**64**	**1.7**	**164.5**	**114.5**
Diesel Car	**24.36**			**47.75**					**72.11**
Petrol Car	**24.36**			**70.78**					**95.14**

High Cost of Free Parking

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What does it cost a developer to comply with minimum parking requirements in million cities?

Type of off Street Parking	Peri Urban Zone	Intermediate Zone	City Center/CBD
Surface parking	1.5-2 Lakh	4.lakh	4.5 - 5 Lakh
Stilt parking	2.5 lakh	3.5 lakh	5 Lakh
Cellar or MLCP	5 lakh	8 Lakh	10 Lakh

There is an absence of the off-street parking market in many land uses

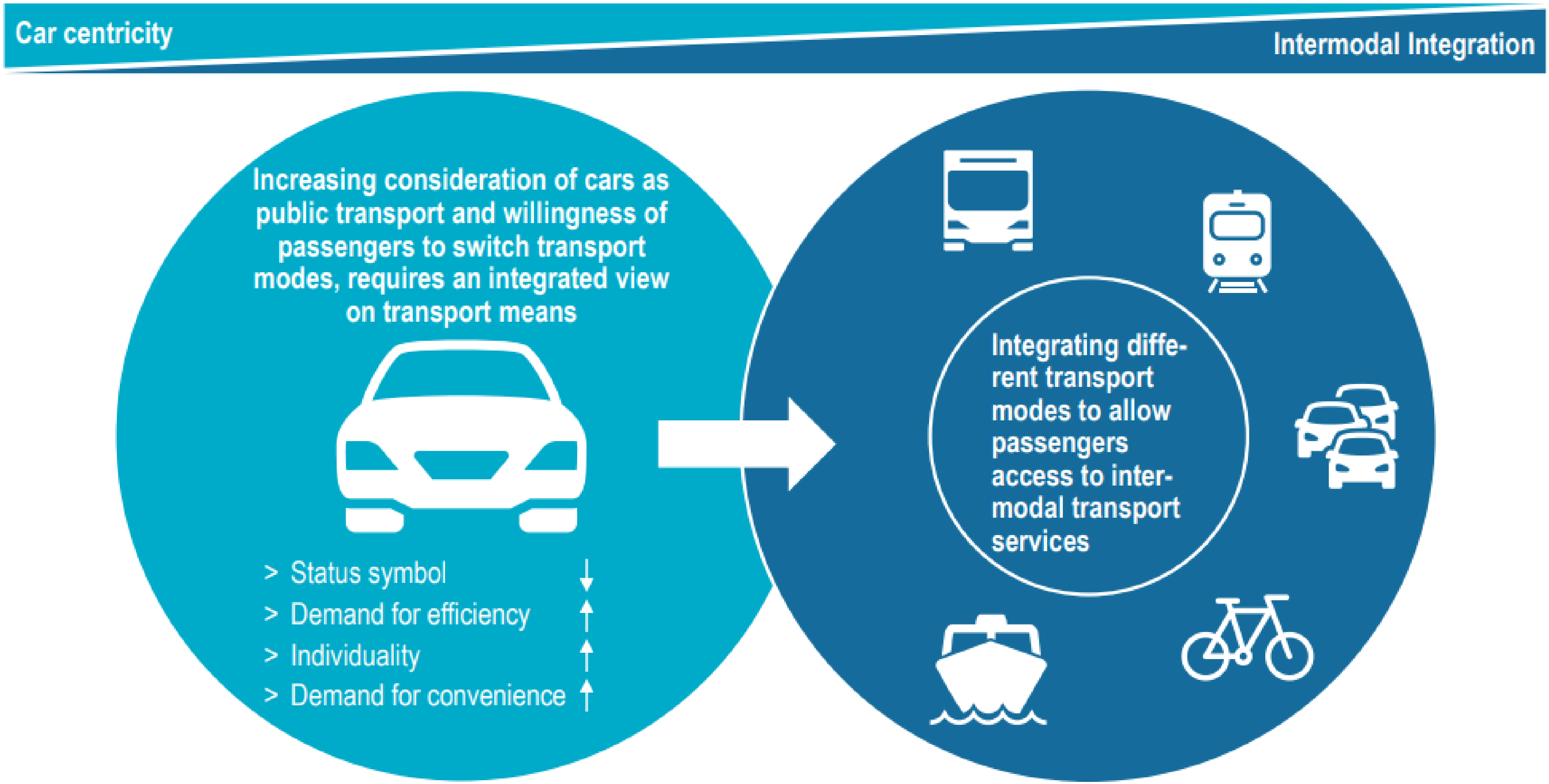
An unregulated market ignores the high social cost of driving.

Source: Compiled from various CPMs & http://environmentclearance.nic.in/

Name of the City	Year	Percentage of Total Municipal Revenue
Lucknow	2014-15	0.51
New Delhi		0.23
Jaipur		0.25
Bangalore		0.29
Chandigarh		0.63
Hyderabad		0.06
Bhubaneswar		0.43
Kolkata	2016-17	0.54
Kochi		0.30
Chennai		0.41
Melbourne	2016-17	13.16
Victoria, British Columbia*	2010-11	5.50
Perth	2017-18	9.00
Zurich*	2014-15	7.83

Source: Municipal Budgets and Annual Reports, *Litman, 2018

Public transport and MaaS



Berger, Roland, 2018

Public transport and MaaS

PT companies need to find good answers to the right questions

Questions

A — Will I have a right to exist in an autonomous world when getting from A to B can be offered almost for free?

B — How can I keep the customer interface and avoid being pushed into the role of a mere carrier?

C — How can I win the race against the car?

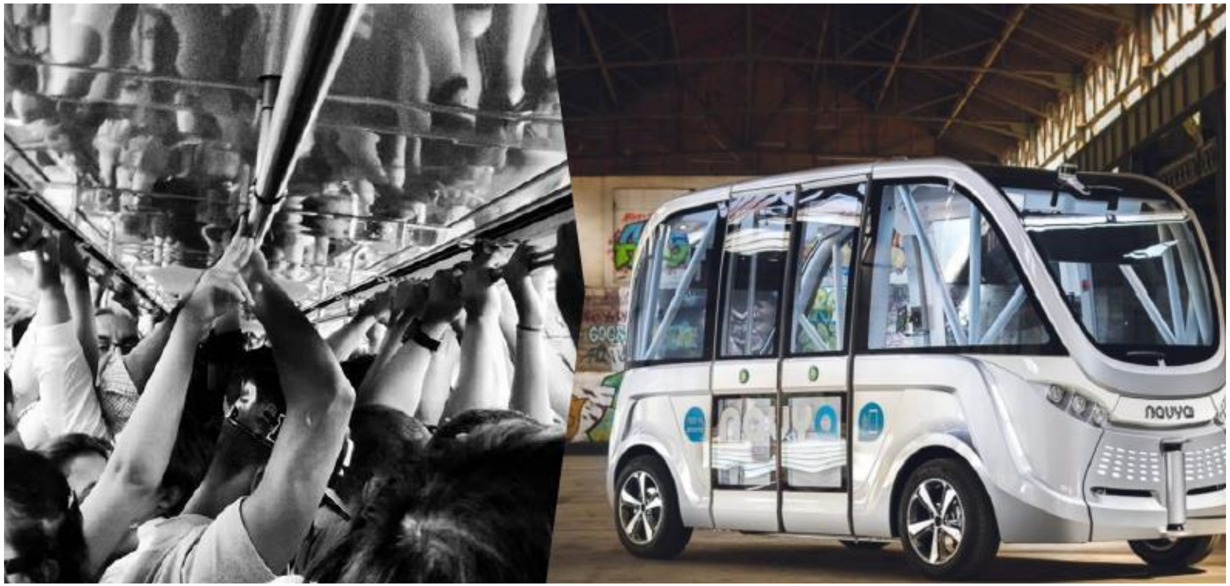
D — Have I done all my home-work on conventional levers?

E — How can I leverage my assets commercially to become (more) independent financially?

Berger, Roland, 2018

App based Mobility Services in Bengaluru

								CONVENTIONAL								PARATRANSIT			NEW MOBILITY				
	TRAFFIC			INTERCITY BUS/VAN				BANGALORE BUS			BANGALORE RAIL		PUBLIC VAN	BOAT	LOCAL TRANSIT	TAXI	TRICYCLE	MOTORCYCLE TAXI	RIDE-SHARING	CAR SHARING	E SCOOTER	BIKE ON RENT	E-RICKSHAW
App																							
INFO	•	•	•	•	•	•	•	•	•	•	•	•				•		•	•	•	•	•	
PLAN		•			•		•			•		•				•		•	•	•	•	•	
BOOK						•	•	•	•	•		•				•		•	•	•	•	•	
PAY			•				•			•		•				•		•	•	•	•	•	
ASSIST							•			•		•				•		•	•	•	•	•	



THANK YOU