



Should the bus be free?

A city asks for advice: fact and opinion, goals, failures, tools, and five questions for any policy.

1

Positive · normative

fact or opinion

- **POSITIVE** what **is** or **will be** → data can test it, even if it turns out **wrong** · “a free bus gets more riders”
- **NORMATIVE** what **should be** → rests on **values** · clues: **should, ought, deserves, unfair, wrong**
- Economist's job → say what a policy **does** and who **pays** ⇒ which policy is right = citizens decide
- Practice: fare up → fewer riders (P) · every child deserves... (N) · riders earn less than average (P) · ought to spend less on roads (N)

2

Goals

they clash

- **Efficiency** → most from scarce resources · **equity** → fair shares of gains and costs
- **Stability** → steady prices, steady jobs · **growth** → more income each year
- More of one goal ⇒ less of another = **trade-off** · free buses: equity ↑, cost ↑

3

Failures

market · government

- **Market failure** → a cost lands on others, an **external cost** (smoke, delay, noise) → reason to act
- **Government failure** → the fix goes wrong: **poor information** · **own incentives** · **unplanned effects**
- Market failure ≠ proof the fix works ⇒ ask for **evidence**
- Practice: noisy club, traffic jam, factory smoke = market · ribbon line, old data, walkers ride = government

4

Tools

seven levers

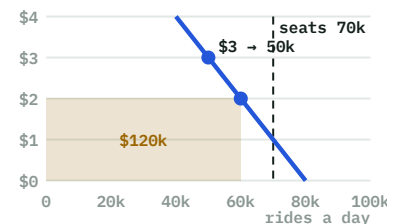
- **Tax** · **subsidy** (pays part of a price) · **price rule** (floor, ceiling) · **regulation**
- **Spending** · **transfer** (cash to people) · **interest rate** (central bank)
- Free bus = **subsidy of 100%** → city pays what riders paid

5

Model

fare · rides · cost

- Demand: $\text{rides} = 80 - 10 \times \text{fare}$ (thousands a day) → \$2: 60k · \$0: 80k · buses hold **70k**
- $\text{fares paid} = \text{fare} \times \text{rides}$ · $\$2 \times 60,000 = \$120,000$ → free: box gone, taxpayers pay
- Fare -100% ⇒ rides +33% = **inelastic** · higher fare, more money: $\$3 \times 50,000 = \$150,000$
- Crowding: below **\$1** riders exceed seats → shortage of seats



6

Cost to taxpayers

practice numbers

- $\text{city pays} = \text{running cost} - \text{fares paid}$ · toy cost **\$4** a ride
- \$2: $60k \times 4 = 240k - 120k = \$120k$ → \$1: $70k \times 4 = 280k - 70k = \$210k$ ⇒ +\$90k for +10k rides

fare \$2	fares 120	city 120	240
fare \$1	70	city 210	280

7

Five questions

policy card · evidence

- 1 problem → 2 tool → 3 model → 4 evidence → 5 trade-off
- Model **predicts** · evidence **checks** · trade-off = who gains, who pays
- **Tallinn 2013** (free fares): free fares alone ≈ **+1.2%** rides, use **+14%** in a year, many new riders had **walked** ⇒ separate the causes
- Luxembourg 2020: tickets ≈ €41M a year, running cost over €500M ⇒ effect on traffic still disputed